

ἈΤΛΑΣ ΟΥΡΑΝΙΟΣ,
The COELESTIAL ATLAS;

OR, A NEW
E P H E M E R I S

For the YEAR of our LORD 1781.

Being the first after
BISSEXTILE, or LEAP-YEAR.

Wherein are contained

The Heliocentrick and Geocentrick Places of the Planets,
the ECLIPSES of the Luminaries, and other remarkable PHENO-
MENA that will happen this Year.

Carefully computed

From the genuine TABLES of Dr. EDMUND HALLEY, late
Regius Professor of ASTRONOMY, and SAVILIAN Professor of
GEOMETRY in the University of OXFORD.

A L S O

A Compleat ALMANACK, containing the FEASTS and FASTS
of the Church of ENGLAND; the Times of the LUNATIONS;
the Rising and Setting of the Sun, Moon, and Planets, &c.

Adapted to the

Meridian and Latitude of the ancient and honourable
CITY of LONDON.

To which are added,

Several useful TABLES: As, a TABLE of the Sun's
Declination; a TABLE by which the Times of the Sun's Rising and
Setting may be known by Inspection, on every Day in the Year, and
in any Part of GREAT-BRITAIN or IRELAND; a TIDE-TABLE,
and a very correct one of the Eclipses of JUPITER's first Satelles;
and, lastly, an exact TABLE of the Rising, Southing, and Setting
of Thirty of the most remarkable fixed Stars: Taken from Mr.
FLAMSTEED's Catalogue.

By ROBERT WHITE,

Teacher of the Mathematicks.

Ἡ τριγώνων ἀντιστοιχία τοῦ ἡλίου.

The THIRTY-SECOND IMPRESSION.

L O N D O N:

Printed for the Company of STATIONERS; and sold
by JOHN WILKIE, at their Hall, in Ludgate-street.

[Price NINE PENCE stitched.]

Ephemerides. K.

Chronological Notes for the Year 1781.

Golden Number	- - 15	Septuagesima Sunday	Feb. 11
Cycle of the Sun	- - 26	Shrove Sunday	- Feb. 25
The Epact	- - 4	Easter Day	- - Apr. 15
Dominical Letter	- - G	Whit-Sunday	- June 3
Number of Direction	- 25	Trinity Sunday	- June 10
Roman Indiction	- - 14	Advent Sunday	- Dec. 2

Astronomical CHARACTERS explained.

♈ Aries	♋ Cancer	♎ Libra	♏ Capricorn
♉ Taurus	♌ Leo	♍ Scorpio	♐ Aquarius
♊ Gemini	♍ Virgo	♏ Sagittary	♑ Pisces
♄ Saturn	☉ Sol (the Sun)	☾ Luna (the Moon)	☿ Tellus,
♃ Jupiter	♀ Venus	♊ Moon's N. Node	Terra (or
♂ Mars	☿ Mercury	♋ her S. Node	the Earth)
♌ Conjunction when Planets are in the same Sign, Deg. Min. &c			
* Sextile when 2 Signs dist.		△ Trine when 4 Signs dist.	
□ Quartile when 3 Signs dist.		♌ Opposition when 6 Signs dist	

Of the Four Quarters of the YEAR 1781.

THE Spring Quarter begins on the 20th Day of March, at 30 Minutes past 5 in the Morning, apparent Time.

The Summer Quarter begins June the 21st, 40 Minutes past 3 in the Morning.

The Autumnal Quarter begins September the 22d, 15 Minutes past 5 in the Afternoon.

The Winter Quarter begins December the 21st, 30 Minutes past 9 in the Morning.

THE beautiful Planet VENUS will be a Morning Star to the 2d Day of June, at which Time she becomes an Evening Star, and so continues to the Year's End.

JUPITER will be a Morning Star until the 13th Day of May; and after that Time he will be an Evening Star to the 30th Day of November; at which Time he becomes again a Morning Star, and so continues to the Year's End.

A TABLE of the Longitudes, Latitudes, and Magnitudes, of the most remarkable FIXED STARS that the MOON can Eclipse, or make a near Appulse unto; taken from Mr. FLAMSTEED'S HISTORIA COELES-
TIS, and rectified to the Beginning of the Year 1760.

Confel- lations.	Bay.Ch.	Longitude.			Latitude.	Magni- tudes.	Bay.Ch.	Longitude.			Latitude.	Magni- tudes.
		°	'	''				°	'	''		
X	♂	10	47	37	2 9 44 B.	4	♂	0	0	37	5 0 22 B.	4.3
	♂	14	10	31	1 4 7 B.	4	♂	1	29	12	1 22 1 B.	3
	♂	16	30	33	0 13 25 A.	4	♂	6	50	31	2 50 53 B.	3
Y	♂	23	27	40	5 21 7 B.	4	♂	14	52	43	1 45 29 B.	4
	♂	17	28	38	1 47 34 B.	4	♂	20	29	41	2 1 59 A.	1
	♂	26	38	28	4 0 37 B.	3	♂	1	9	0	2 55 40 B.	4
Ald.	♂	2	25	54	5 46 22 A.	3	♂	11	45	0	0 22 51 B.	2
	♂	5	5	31	2 35 58 A.	3.4	♂	21	47	13	4 25 27 B.	3.4
	♂	6	25	20	5 29 49 A.	1	♂	24	0	58	4 2 52 B.	4
II	♂	13	25	56	1 14 34 A.	4	♂	26	31	24	3 30 4 B.	4
	♂	19	12	16	5 21 34 B.	2	♂	27	8	3	0 7 50 B.	4
	♂	21	25	48	2 14 21 A.	3	♂	29	14	10	1 56 31 A.	3
II	♂	1	56	30	0 51 22 A.	3	♂	29	35	45	5 25 46 A.	3
	♂	3	26	40	3 6 3 A.	4	♂	29	51	16	1 3 9 B.	2
	♂	5	44	38	6 47 19 A.	2.3	♂	1	18	31	1 40 50 B.	4
Cor.	♂	6	34	57	2 1 30 B.	3	♂	6	24	24	4 31 26 A.	1
	♂	11	37	51	2 5 27 A.	3.4	♂	8	6	16	6 4 23 A.	4
	♂	15	9	36	0 13 7 A.	3	♂	27	54	7	6 55 51 A.	3
Ω	♂	19	54	29	6 39 27 B.	2	♂	1	12	32	6 25 21 A.	3
	♂	4	11	20	3 9 41 B.	4	♂	2	58	15	2 4 1 A.	4
	♂	5	22	0	0 3 46 B.	4	♂	9	1	32	3 23 32 A.	4.3
Ω	♂	18	18	4	3 11 22 A.	4	♂	11	28	30	5 1 12 A.	4
	♂	20	54	28	3 46 50 A.	3.4	♂	11	39	6	0 54 38 B.	4
	♂	24	32	44	4 50 20 B.	3.4	♂	12	55	3	1 28 59 B.	4
Cor.	♂	25	57	24	3 56 18 A.	4	♂	0	42	17	4 37 27 B.	3
	♂	26	29	40	0 26 38 B.	1	♂	18	26	2	2 31 18 A.	4
	♂	3	2	10	0 7 48 B.	4	♂	20	11	34	2 32 19 A.	3
♂	♂	18	9	22	0 34 4 A.	4	♂	25	22	21	2 3 15 A.	4
	♂	23	44	34	0 40 47 B.	3	♂	29	54	4	2 43 47 B.	4

I have inserted this Table to oblige the Curious. If 50 Seconds be added for every succeeding, and subtracted for every preceding Year, the Longitudes may be found at all Times, and the Latitudes vary not.

A TABLE of the Difference of Meridians in Time, from the ROYAL OBSERVATORY near LONDON, and of the Latitudes of several famous Cities, and other remarkable Places. Taken from Dr. HALLEY's TABLES.

NAMES of PLACES.	Diff. Mer.				Alt. of Pole.			
	h.	m.	f.		d.	m.	f.	
Alexandria in Egypt — —	2	1	6	A.	31	7	0	N.
Athens in Greece — —	1	35	30	A.	38	5	0	N.
Babylon in Egypt, Grand Cairo	2	5	45	A.	30	2	30	N.
Berlin in Brandenburg — —	0	53	50	A.	52	33	0	N.
Cape of Good Hope in Africa	1	8	0	A.	34	15	0	S.
Cadiz in Spain — —	0	24	28	S.	36	33	30	N.
Carthagena in America — —	5	0	46	S.	10	26	0	N.
Copenhagen in Denmark — —	0	51	0	A.	55	40	45	N.
Dantzick in Poland — —	1	15	12	A.	54	22	0	N.
Island of St. Helen — —	0	24	0	S.	15	55	0	S.
Jerusalem — — —	2	21	20	A.	31	55	0	N.
London, at St. Paul's — —	0	0	20	S.	51	30	40	N.
Lisbon in Portugal — —	0	36	50	S.	38	42	30	N.
Moscow in Russia — —	2	41	20	A.	55	36	0	N.
Naples in Italy — —	0	58	40	A.	40	50	45	N.
Observatory at Greenwich — —	0	0	0	—	51	28	30	N.
Observatory at Paris — —	0	9	20	A.	48	50	10	N.
Oxford — — —	0	5	4	S.	51	45	0	N.
Petersburg in Russia — —	2	1	20	A.	60	0	0	N.
Pekin in China — — —	7	45	20	A.	39	54	0	N.
Porto Bello in America — —	5	19	20	S.	9	33	5	N.
Prague in Bohemia — —	0	59	0	A.	50	4	30	N.
Rome, the Metropolis of Italy	0	50	0	A.	41	54	0	N.
Rochelle in France — —	0	5	4	S.	46	9	53	N.
Smyrna in Turkey — —	1	49	19	A.	38	28	7	N.
Teneriff Mountain — —	1	6	12	S.	28	23	27	N.
Terra del Gada in Madagascar	2	58	0	A.	19	29	0	S.
Tornea in Lapland — —	1	35	15	A.	65	50	50	N.
Venice in Italy — —	0	48	18	A.	45	25	0	N.
Vienna in Austria — —	1	5	30	A.	48	12	48	N.
Upsal in Sweden — — —	1	11	0	A.	59	51	50	N.

A TABLE of the **KINGS** and **QUEENS** of **ENGLAND** since the **CONQUEST**

Kings and Queens.	Born A.D.	Began their Reign.	Reigned Y. M. D.	Rem. Deaths and Dethroned	Where buried.
Will. Cong.	1027	1066 Oct. 14	20 10 26	Burst by Leap.	Caen Norm
Will. Rufus	1057	1087 Sept. 9	12 10 24	Slain acciden- tally.	Winchester
Henry I.	1068	1100 Aug. 2	35 3 29		Reading
Stephen	1105	1135 Dec. 1	18 10 24		Feverham
Henry II.	1133	1154 Oct. 25	34 8 11		Fonteveraud
Richard I.	1156	1189 July 6	9 9 0	Slain with an Arrow.	Fonteveraud
John	1163	1199 April 6	17 6 13		Worcester
Henry III.	1207	1216 Oct. 19	56 0 28		Westminster
Edward I.	1239	1272 Nov. 16	34 7 21		Westminster
Edward II.	1284	1307 July 7	19 6 18		Gloucester
Edward III.	1312	1327 Jan. 25	50 4 27		Westminster
Richard II.	1366	1377 June 21	22 3 8	Dep. & murd.	Westminster
Henry IV.	1367	1399 Sept. 29	13 5 20		Canterbury
Henry V.	1389	1413 Mar. 20	9 5 11		Westminster
Henry VI.	1421	1422 Aug. 31	38 6 4	Dep. & murd.	Windfor
Edward IV.	1442	1461 Mar. 4	22 1 5		Windfor
Edward V.	1471	1483 April 9	0 2 15	Murder'd.	Not known
Richard III.	1443	1483 June 22	2 2 0	Slain in Battle.	Leicester
Henry VII.	1456	1485 Aug. 22	23 8 0		Westminster
Henry VIII.	1492	1509 April 22	37 9 6		Windfor
Edward VI.	1537	1547 Jan. 28	6 5 8		Westminster
Mary I.	1516	1553 July 6	5 4 11	Died of Grief.	Westminster
Elizabeth	1533	1558 Nov. 17	44 4 7		Westminster
James I.	1566	1603 Mar. 24	22 0 3		Westminster
Charles I.	1600	1625 Mar. 27	23 10 3	Beheaded.	Windfor
Charles II.	1630	1649 Jan. 30	36 0 7		Westminster
James II.	1633	1685 Feb. 6	4 0 7	Abdicated.	St. Germain
Mary II.	1662	1689 Feb. 13	5 10 15		Westminster
William III.	1650	1689 Feb. 13	13 0 23	Kill'd by a Fall from his Horse.	Westminster
Anne	1665	1702 Mar. 8	12 4 24		Westminster
George I.	1660	1714 Aug. 1	12 10 10		Hanover
George II.	1683	1727 June 11	33 4 14		Westminster
George III.	1738	1760 Oct. 25	Crowned Sept. 22, 1761.		

Above you view the Rise and Fall of Kings,
Whose Fate sometimes a useful Lesson brings,
Well if all Men could profit from the past!
Each know his Duty, each excel the last,
And justly execute his stated Task.

A TABLE of the most Reverend, Right Reverend, and Reverend, the BISHOPS and DEANS, exercising Ecclesiastical Jurisdiction, 1781.

BISHOPS.	Sees.	Date.	Succeeded.	DEANS.
H. Dr. F. Cornwallis	<i>Litch & Cov.</i>	1749	Smallbroke de.	
Arch-Bishop	Carterb. A. B.	1768	Secker deceas.	Dr. J. Cornwallis
Dr. Will. Markham	<i>Chester</i>	1748	Keene translat.	
Arch-Bishop	York A. B.	1777	Drummond de.	Dr. J. Fountayne
	<i>St. David's</i>	1761	Squire deceas.	
Dr. Robert Lowth	<i>Oxford</i>	1757	Hume transl.	Rt. Rev. Dr. Thomas Newton
	London	1777	Terrick dec.	
Dr. John Egerton	<i>Bangor</i>	1754	Willes transl.	
	Durham	1752	Trevor deceas.	Hon. W. Digby
	<i>Peterborough</i>	1747	Clavering dec.	
Dr. John Thomas	<i>Salisbury</i>	1757	Gilbert transl.	
	Winchester	1761	Hoadley dec.	Dr. Ogle
Lord J. Beauclerk	Hereford	1746	Egerton deceas.	Dr. Wetherell
Dr. Edmund Keene	<i>Chester</i>	1752	Peploe deceased	
	Ely	1771	Mawson dec.	Dr. Cooke
Sir W. Ashburnham	Chichester	1754	Mawson transl.	Dr. Harward
	<i>Bristol</i>	1756	Conybeare dec.	
Dr. John Hume	<i>Oxford</i>	1758	Secker tr.	
	Salisbury	1766	Thomas tr.	Dr. Noei
Dr. Philip Yonge	<i>Bristol</i>	1758	Hume transl.	
	Norwich	1761	Hayter transl.	Dr. P. Lloyd
Dr. Thomas Newton	Bristol	1761	Yonge transl.	Dr. Cutts Barton
	<i>St. David's</i>	1766	Clagget transl.	
Dr. Charles Moss	Bath & Wells	1774	Willes deceased	Ld. Fr. Seymour
Dr. J. Shipley	St. Asaph	1769	Newcome dec.	Dr. W. D. Shipley
Dr. Edmund Law	Carlisle	1769	Lyttelton dec.	Dr. Percy
Dr. S. Barrington	Landaff	1769	Shipley transl.	Dr. Adams, A.D.
Dr. John Hinchliffe	Peterborough	1769	Lamb dec.	Dr. Ch. Tarrant
	<i>Litch. & Cov.</i>	1768	Cornwallis tr.	
Hon. Dr. B. North	Worcester	1775	Johnson deceas.	Dr. Foley
Hon. Dr. James Yorke	Gloucester	1779	Warburton dec.	Dr. Josiah Tucker
Dr. John Thomas	Rochester	1774	Pearce dec.	Dr. Cust
Dr. Hurd	Litch & Cov.	1775	B. North tr.	Dr. Proby
Dr. Moore	Bangor	1775	Ewer deceased	Dr. Tho. Lloyd
Dr. Beilby Porteus	Chester	1777	Markham tran.	Dr. Will. Smith
Dr. John Butler	Oxford	1777	Lowth transl.	Dr. Lewis Bagot.
Dr. John Ross	Exeter	1778	Keppel dec.	Dr. Jer. Milles
Dr. Thurlow	Lincoln	1779	Green dec.	Bishop Yorke
Dr. John Warren	St. David's	1779	Yorke transl.	Mr. Wollaston, P.
	Westminster	1768		Bishop Thomas
Dr. George Mason	Sodor & Man	1779	Richmond dec	
	Windlor	1778	Hon. &	Rev. Dr. Harley

The NAMES of the Learned JUDGES of the LAW.

- I. The R. H. Edward Lord Thurlow, Lord High Chancellor of Great Britain.
Right Honourable Sir Thomas Sewell, Knt. Master of the Rolls.
- II. In the } R. H. Wm. Earl Mansfield, L. C. J. Edward Willes, Esq;
K. Bench. } Sir W. H. Ashurst, Knt. Francis Buller, Esq;
- III. In the } R. H. Alex. Lord Loughborough, L. C. J. Sir Henry Gould, Knt.
C. Pleas. } Sir George Nares, Knt. John Heath, Esq;
- IV. In the } Sir John Skynner, Knt. L. C. B. Sir James Eyre, Knt.
Exchequer } Sir Beaumont Hotham, Knt. Sir Richard Perryn, Knt.
- James Wallace, Esq; Att. Gen. James Mansfield, Esq; Sol. Gen.

A TABLE of TERMS and their RETURNS.

Hilary Term begins Jan. 23, ends Feb. 12.

Returns or Effoign-days.				Exc.	Ret.	Ap.	W. D.
In eight Days of St. Hilary,	-	-	Jan. 20	21	22	23	Tuesd.
From the Day of St. Hilary in 15 Days	-	-	27	28	29	30	Tuesd.
On the Morrow of the Purif. Blessed Mary, Feb.	3			4	5	6	Tuesd.
In eight Days of the Purif. of Blessed Mary,	-	-	9	10	11	12	Mond.

Easter Term begins May 2, ends May 28.

From the Day of Easter in 15 Days,	-	April 29	30	M1	2	Wedn.
From the Day of Easter in 3 Weeks,	-	May 6	7	8	9	Wedn.
From the Day of Easter in 1 Month,	-	- 13	14	15	16	Wedn.
From the Day of Easter in 5 Weeks,	-	- 20	21	22	23	Wedn.
On the Morrow of the Ascension,	-	- 25	26	27	28	Monday

Trinity Term begins June 15, ends July 4.

On the Morrow of the Holy Trinity,	-	June 11	12	13	15	Friday.
In 8 Days of the Holy Trinity,	-	- 17	18	19	20	Wedn.
In 15 Days of the Holy Trinity,	-	- 24	25	26	27	Wedn.
In 3 Weeks of the Holy Trinity,	-	July 1	2	3	4	Wedn.

Michaelmas Term begins Nov. 6, ends Nov. 28.

On the Morrow of All Souls,	-	- Nov. 3	4	5	6	Tuesd.
On the Morrow of St. Martin,	-	- 12	13	14	15	Thurs.
In eight Days of St. Martin,	-	- 18	19	20	21	Wedn.
In 15 Days of St. Martin,	-	- 25	26	27	28	Wedn.

N. B. No Sittings in Westminster-Hall on Ascension-day, Midsummer-day, and the 2d of February.

The Exchequer opens eight Days before any Term begins, except Trinity, before which it opens but four Days.

Note, That the first and last Days of every Term, are the first and last Days of Appearance.

The LUNATIONS, apparent Time.

First Quarter the 2d Day, 14 Minutes past 8 at Night.

Full Moon the 10th Day, 4 Minutes past 9 in the Morning.

Last Quarter the 17th Day, 53 Minutes past 1 in the Morning.

New Moon the 24th Day, 12 Minutes past Noon.

M D.	Sundays & other Remark. Days.	Sun rises;	Sun sets.	Dec. ☉ South.	Dec. ☽ South.	Moon sets.	Moon South.	Clock bef. Sun
1	Circumcision.	8 4	3 56	22 58	4 28	11 A 10	5 A 1	4 23
2		8 4	3 56	22 53	IN. 0	Morn.	5 51	4 51
3		8 3	3 57	22 46	6 26	0 20	6 31	5 19
4		8 2	3 58	22 40	11 46	1 28	7 13	5 46
5	Old Christ. Day.	8 1	3 59	22 33	16 42	2 42	7 59	6 12
6	Epiphany.	8 0	4 0	22 26	21 3	3 58	8 48	6 39
7	2 S. aft. Epiph.	7 59	4 1	22 18	24 32	5 16	9 42	7 4
8	Lucian.	Plow Monday.		22 10	26 47	6 33	10 40	7 29
9		7 57	4 3	22 1	27 26	7 42	11 41	7 54
10		7 56	4 4	21 52	26 18	Drises	Morn.	8 18
11		7 55	4 5	21 43	23 25	5 A 16	0 41	8 42
12	O. N. Year's Day	7 54	4 6	21 33	19 3	6 48	1 40	9 4
13	Camb. Term beg.	Hilary.	4 7	21 22	13 29	8 17	2 35	9 27
14	2 S. aft. Epiph.	7 52	4 8	21 11	7 12	9 43	3 27	9 48
15	Oxf. Term beg.	7 51	4 9	21 0	0 37	11 9	4 17	10 9
16		7 50	4 10	20 49	5 S. 55	Morn.	5 6	10 29
17	O. Twelfth Day.	7 49	4 11	20 38	12 1	0 33	5 54	10 40
18	Q. Char. B. D. k.	Prisca.	4 12	20 24	17 28	1 58	6 44	11 8
19		7 46	4 14	20 12	21 57	3 20	7 36	11 26
20	Fabian B. & M.	7 45	4 15	19 59	25 13	4 42	8 27	11 43
21	3 S. aft. Epiph.	Agnes.	4 16	19 45	27 4	5 58	9 24	12 0
22	Vincent.	7 42	4 18	19 31	27 25	7 0	10 19	12 16
23	Term begins.	7 41	4 20	19 17	26 18	7 48	11 13	12 31
24		7 39	4 21	19 3	23 53	Drises.	0 A 5	12 45
25	Conv. St. Paul.	7 37	4 23	18 48	20 23	5 A 12	0 53	12 58
26		7 36	4 24	18 32	16 4	6 26	1 38	13 11
27	Pr. Aug. Fred. b.	7 34	4 26	18 17	11 12	7 37	2 20	13 23
28	4 S. aft. Epiph.	7 32	4 28	18 1	5 56	8 46	3 0	13 34
29		7 30	4 30	17 45	0 30	9 54	3 39	13 44
30	K. Charl. I. Mart	7 28	4 32	17 28	4 N. 57	11 4	4 18	13 54
31		7 27	4 33	17 11	10 16	Morn.	4 59	14 2
Day increas.	Length of Day.	Helioc. Plac. ♀	Helioc. Plac. ♀	Helioc. Plac. ♂	Helioc. Plac. ☉	Helioc. Plac. ♀	Helioc. Plac. ♂	Satur rises.
1 0 8	7 52	12 3	12 47	9 41	11 34	10 2	29 5	5 M 56
7 0 18	8 2	12 13	12 55	12 26	17 41	19 43	20 47	5 33
13 0 30	8 14	12 24	13 33	15 11	23 48	29 22	9 43	5 9
19 0 44	8 28	12 35	13 50	17 57	20 54	8 59	27 1	4 47
25 1 2	8 46	12 46	14 18	20 45	6 18	1 18	35 13	4 25

Days	Day lig. begins.	Day lig. ends.	Durat. Twilig.	Node D in S	Lat. ♀ North.	Lat. ♀ North.	Lat. ♂ North.	Lat. ♀ North.	Lat. ♂ North.
1	5 59	6 1	2 10	10 40	1 28	1 0	0 58	1 50	2 2
7	5 56	6 4	2 9	10 21	1 28	1 0	0 57	1 37	1 9
13	5 32	6 8	2 7	10 2	1 29	1 1	0 55	1 22	0 17
19	5 46	6 14	2 5	9 43	1 29	1 1	0 52	1 6	0 S. 30
25	5 39	6 21	2 3	9 24	1 29	1 2	0 49	0 48	1 9
Days	☉ d. m. s.	☿ D X	Lat. D	♀ h	♂ u	♀ m	♂ m	♀ f	♂ f
1	11 34 17	27 3	3 S. 35	14 36	20 34	11 16	4 50	18 38	
2	12 35 20	8 V 52	2 46	14 42	20 45	11 53	6 3	19 33	
3	13 36 39	20 46	1 49	14 49	20 55	12 30	7 16	20 32	
4	14 37 50	2 8 50	0 47	14 55	21 5	13 7	8 30	21 35	
5	15 39 0	15 9	0 N 19	15 2	21 16	13 43	9 43	22 40	
6	16 40 9	27 47	1 25	15 8	21 26	14 20	10 56	23 47	
G 7	17 41 18	10 II 49	2 29	15 15	21 36	14 57	12 10	24 57	
8	18 42 26	24 16	2 36	15 21	21 46	15 34	13 23	26 10	
9	19 43 34	8 58 8	4 13	15 27	21 55	16 10	14 37	27 24	
10	20 44 41	22 22	4 46	15 33	22 5	16 47	15 50	28 40	
11	21 45 48	6 52	5 1	15 40	22 14	17 24	17 4	29 57	
12	22 46 55	21 31	4 57	15 46	22 24	18 0	18 17	31 15	
13	23 48 1	6 m 12	4 33	15 52	22 33	18 37	19 31	32 35	
G 14	24 49 6	20 46	3 51	15 58	22 42	19 14	20 44	3 56	
15	25 50 11	5 11	2 55	16 4	22 51	19 50	21 58	5 18	
16	26 51 16	19 21	1 40	16 9	23 0	20 27	23 12	6 41	
17	27 52 21	3 m 17	0 38	16 15	23 9	21 3	24 25	8 5	
18	28 53 25	16 58	0 S. 35	16 21	23 17	21 40	25 39	9 30	
19	29 54 29	0 26	1 44	16 27	23 26	22 16	26 53	10 56	
20	30 55 33	13 42	2 46	16 32	23 34	22 52	28 7	12 23	
G 21	1 56 36	26 46	3 39	16 38	23 42	23 29	29 21	13 50	
22	2 57 39	9 h 40	4 10	16 44	23 51	24 5	0 35	15 18	
23	3 58 42	22 23	4 46	16 50	23 59	24 41	1 49	16 47	
24	4 59 41	4 55	4 50	16 55	24 7	25 18	3 3	18 17	
25	6 0 41	17 16	4 57	17 1	24 15	25 54	4 17	19 47	
26	7 1 40	29 27	4 42	17 6	24 23	26 30	5 31	21 18	
27	8 2 37	11 X 28	4 14	17 11	24 30	27 6	6 45	22 50	
G 28	9 3 35	23 21	3 35	17 16	24 38	27 42	7 59	24 22	
29	10 4 30	5 V 10	2 47	17 22	24 46	28 18	9 13	25 55	
30	11 5 23	16 58	1 52	17 27	24 53	28 54	10 27	27 29	
31	12 6 15	28 49	0 52	17 32	25 1	29 30	11 41	29 4	
Days	Jupiter rises.	Mars rises.	Venus rises.	Mercur. rises.	Dec. ♀ South.	Dec. ♀ South.	Dec. ♂ South.	Dec. ♀ South.	Dec. ♂ South.
1	3 M 49	2 M 56	5 A 1	6 M 11	21 7	16 57	14 17	9 19	20 56
7	3 28	2 50	5 14	6 0	21 10	17 11	15 26	20 40	22 13
13	3 8	2 45	5 26	6 36	21 14	17 27	16 31	21 41	23 10
19	2 48	2 40	5 38	6 48	21 17	17 40	17 31	22 20	23 31
25	2 27	2 36	5 50	6 58	21 21	17 51	18 27	22 35	23 9

10 February hath XXVIII Days. White.

The LUNATIONS.

First Quarter the 1st Day, 56 Minutes past 4 at Night.
 Full Moon the 8th Day, 28 Minutes past 8 at Night.
 Last Quarter the 15th Day, 48 Minutes past 11 in the Morning.
 New Moon the 23d Day, 55 Minutes past 5 in the Morning.

M	Sundays & other D. remark. Days.	Sun rises.	Sun sets.	Dec. ☉ South.	Dec. ☾ North.	Moon sets.	Moon South.	Clock bef. Sun	
1		7 26	4 35	16 54	15 16	0 M 14	5 A 42	14 10	
2	Purif. B. V. M.	7 24	4 37	16 37	19 48	1 28	6 28	14 17	
3	Blafe.	7 22	4 39	16 19	23 33	2 45	7 19	14 23	
G 4	S. aft. Epiph.	7 20	4 40	16 1	26 14	4 2	8 14	14 28	
5	Agatha V. & M.	7 18	4 41	15 42	17 31	5 15	9 13	14 32	
6		7 16	4 44	15 24	27 7	6 15	10 16	14 35	
7		7 15	4 45	15 5	24 55	7 1	11 16	14 38	
8		7 13	4 47	14 46	21 1	☾ rises.	Morn.	14 40	
9		7 11	4 49	14 27	15 43	5 A 42	0 15	14 41	
10		7 10	4 51	14 7	9 26	7 6	1 10	14 41	
G 11	Septuag. Sunday	7 8	4 53	13 47	2 38	8 44	2 3	14 41	
12	Term ends.	7 6	4 55	13 27	4 S. 12	10 11	2 53	14 39	
13	Old Candlem. D.	7 5	4 56	13 7	10 42	11 38	3 44	14 37	
14	Valentine.	7 3	4 58	12 47	16 30	Morn.	4 35	14 35	
15		7 1	5 0	12 26	21 18	1 4	5 27	14 31	
16		6 59	5 2	12 5	24 52	2 29	6 21	14 27	
17		6 57	5 4	11 44	27 0	3 46	7 16	14 22	
G 18	Sexag. Sunday.	6 55	5 6	11 23	27 39	4 52	8 12	14 17	
19		6 53	5 8	11 2	26 51	5 44	9 7	14 10	
20		6 51	5 10	10 40	24 42	6 22	9 55	14 4	
21		6 49	5 12	10 18	21 27	6 48	10 45	13 56	
22		6 47	5 14	9 56	17 19	7 9	11 35	13 48	
23	Pr. Octavins bo.	6 45	5 16	9 34	12 31	☾ sets.	0 A 17	13 39	
24	St. Matthias.	Pr. Adol. Fred. b.	9 12	7 19	6 A 35	0 58	13 30		
G 25	Quinqu Sunday	6 41	5 20	8 50	1 5	7 44	1 38	13 20	
26		6 39	5 22	8 27	3 N. 36	8 53	2 17	13 10	
27	Shrove-Tuesday	6 37	5 23	8 42	8 59	10 4	2 57	12 59	
28	Ash-Wednesday	6 36	5 25	7 42	14 6	11 16	3 41	12 47	
Days	Day increaf.	Length of Day.	Helioc. Plac. ♀	Helioc. Plac. ☿	Helioc. Plac. ♂	Helioc. Plac. ☾	Helioc. Plac. ♀	Helioc. Plac. ♂	Saturn rises.
1	1 25	9 9	12 459	14 m 51	24 3	133 7	29 m 45	3 1	4 M 0
7	1 46	9 30	13 10	15 18	26 53	19 12	9 17	20 38	3 38
13	2 7	9 51	13 20	15 46	29 45	25 15	18 49	10 2	3 16
19	2 31	10 15	13 31	16 14	2 m 37	1 m 18	28 18	2 21	2 54
25	2 55	10 39	13 42	16 42	5 53	7 20	7 47	28 4	2 34

February, 1781.

II

Days	Day lig. begins.	Day lig. ends.	Durat. Twilig.	Node D in ☿	Lat. ♀ North.	Lat. ♀ North.	Lat. ♂ North.	Lat. ♀ North.	Lat. ♂ South.
1	5 30	6 30	2 0	9 1	1 30	1 2	0 46	0 28	1 44
7	5 21	6 30	1 59	8 42	1 31	1 3	0 42	0 10	2 1
13	5 12	6 48	1 57	8 23	1 31	1 4	0 38	0 8	2 5
19	5 0	7 0	1 57	8 4	1 31	1 5	0 33	0 24	1 53
25	4 50	7 10	1 56	7 45	1 32	1 6	0 28	0 39	1 22
Days	☉ d. m. s.	☿ D ☿	Lat. ♀ D	♂ h	♀ f	♂ h	♀ f	♂ h	♀ f
1	13 7 5	10 50	0N.12	17 37	25 8	0 6	12 55	0 39	
2	14 7 54	23 5	1 16	17 42	25 15	0 41	14 9	2 15	
3	15 8 41	5 40	2 18	17 47	25 21	1 17	15 23	3 52	
G	16 9 26	18 40	3 15	17 52	25 28	1 53	16 37	5 30	
5	17 10 10	2 8	4 4	17 56	25 34	2 29	17 51	7 9	
6	18 10 52	16 5	4 39	18 1	25 40	3 4	19 5	8 48	
7	19 11 33	0 30	4 58	18 6	25 46	3 40	20 19	10 28	
8	20 12 13	15 17	4 59	18 11	25 51	4 15	21 33	12 9	
9	21 12 52	0 18	4 38	18 15	25 57	4 51	22 47	13 51	
10	22 13 29	15 23	3 59	18 19	26 2	5 26	24 1	15 33	
G	23 14 4	0 23	3 2	18 23	26 8	6 1	25 16	17 16	
12	24 14 38	15 8	1 55	18 28	26 13	6 37	26 30	19 0	
13	25 15 11	29 35	0 41	18 32	26 18	7 12	27 44	20 45	
14	26 15 42	13 40	0 S.34	18 36	26 23	7 47	28 58	22 31	
15	27 16 12	27 23	1 45	18 40	26 27	8 22	0 12	24 18	
16	28 16 41	10 45	2 48	18 44	26 32	8 57	1 26	26 7	
17	29 17 9	23 50	3 41	18 48	26 37	9 32	2 41	27 56	
G	X 17 36	6 40	4 21	18 51	26 41	10 7	3 55	29 46	
19	1 18 1	19 16	4 49	18 55	26 45	10 42	5 9	1 X 36	
20	2 18 24	1 42	5 2	18 58	26 49	11 16	6 23	3 27	
21	3 18 46	13 58	5 0	19 2	26 53	11 51	7 37	5 19	
22	4 19 6	26 5	4 46	19 5	26 57	12 26	8 52	7 12	
23	5 19 25	8 X 6	4 18	19 9	27 0	13 1	10 6	9 5	
24	6 19 42	20 1	3 39	19 12	27 4	13 35	11 20	10 59	
G	7 19 57	1 51	2 51	19 15	27 7	14 10	12 35	12 54	
26	8 20 10	13 38	1 56	19 18	27 9	14 45	13 49	14 49	
27	9 20 21	25 26	0 35	19 20	27 12	15 19	15 3	16 45	
28	10 20 31	7 18	0 N. 8	19 23	27 24	15 54	16 17	18 40	
Days	Jupiter rises.	Mars rises.	Venus rises.	Mercu. rises.	Dec. ♀ South.	Dec. ♀ South.	Dec. ♂ South.	Dec. ♀ South.	Dec. ♂ South.
1	2M 4	2M 32	5M 54	7M 7	21 24	18 4	19 27	22 2	21 44
7	1 43	2 28	5 57	7 9	21 26	18 12	20 14	21 46	19 35
13	1 22	2 23	6 0	7 9	21 28	18 19	20 54	20 46	16 34
19	1 1	2 18	5 58	fets.	21 30	18 24	21 32	19 23	12 41
25	0 40	2 14	5 55	5 A 41	21 30	18 28	22 4	17 41	8 0

The LUNATIONS.

First Quarter the 3d Day, 36 Minutes past 10 in the Morning.

Full Moon the 10th Day, 32 Minutes past 6 in the Morning.

Last Quarter the 16th Day, 26 Minutes past 11 at Night.

New Moon the 24th Day, 7 Minutes past Midnight.

M.	Sundays & other D. remark. Days.	Sun rises.	Sun sets.	Dec. ☉ South.	Dec. ☽ North.	Moon sets.	Moon South.	Clock bef. Sun	
1	David.	6 34	5 27	7 19	18 44	Morn.	4 A 24	12 35	
2	Chad.	6 32	5 29	6 56	22 41	0 29	5 12	12 23	
3		6 30	5 31	6 33	25 41	1 46	6 5	12 9	
4	G 1 Sun. in Lent.	6 28	5 33	6 10	27 27	3 0	7 1	11 56	
5		6 26	5 35	5 47	27 42	4 5	8 0	11 42	
6		6 24	5 37	5 24	26 16	4 58	9 0	11 27	
7	Ember Week.	Perpet.	5 39	5 0	23 8	5 35	9 59	11 12	
8		6 20	5 41	4 37	18 24	6 2	10 56	10 57	
9		6 18	5 43	4 14	12 27	6 23	11 51	10 41	
10		6 16	5 45	3 50	5 42	Dries.	Morn.	10 25	
11	G 2 Sun. in Lent.	6 14	5 47	3 27	1 S. 24	7 A 45	0 44	10 8	
12	Gregory.	6 12	5 49	3 3	8 21	9 17	1 36	9 52	
13		6 10	5 51	2 39	14 43	10 48	2 29	9 35	
14		6 8	5 53	2 16	20 5	Morn.	3 24	9 17	
15		6 6	5 55	1 52	24 11	0 16	4 18	9 0	
16		6 4	5 57	1 28	26 48	1 39	5 15	8 43	
17	St. Patrick.	6 2	5 59	1 5	27 51	2 53	6 11	8 25	
18	G 3 Sun. in Lent.	Edw. K. W. Sax.		0 41	27 21	3 50	7 8	8 7	
19		5 58	6 3	0 17	25 29	4 32	8 1	7 49	
20		5 56	6 5	0 N. 6	22 27	4 59	8 52	7 30	
21	Benedict.	5 54	6 7	0 30	18 30	5 21	9 39	7 12	
22		5 52	6 9	0 54	13 51	5 38	10 22	6 54	
23		5 50	6 11	1 17	8 43	5 51	11 3	6 35	
24		5 48	6 13	1 41	3 18	6 2	11 44	6 16	
25	G Midlent Sund.	Lady Day.	1 1	2 5	2 N. 14	D sets.	0 A 33	5 58	
26		5 44	6 17	2 28	7 42	8 A 0	1 3	5 39	
27		5 43	6 18	2 52	12 56	9 13	1 45	5 21	
28		5 41	6 20	3 15	17 43	10 27	2 28	5 2	
29		5 39	6 22	3 38	21 52	11 41	3 15	4 44	
30		5 37	6 24	4 2	25 8	Morn.	4 7	4 25	
31		5 35	6 26	4 25	27 14	0 56	5 0	4 7	
Days	Day increaf.	Length of Day.	Helioc. Plac. ♀	Helioc. Plac. ♀	Helioc. Plac. ♂	Helioc. Plac. ☉	Helioc. Plac. ♀	Helioc. Plac. ♂	Saturn rises.
1	3 9	10 53	13 15	17 11	0 7	130	11 21	14 8	19 20
7	3 33	11 17	14 0	17 28	10 10	27 17	21 23	37 24	8 21
13	3 57	11 41	14 11	17 55	13 13	26 23	19 3	5 2	25 4
19	4 21	12 5	14 22	18 27	16 16	27 29	17 12	34 7	39 1
25	4 46	12 30	14 3	18 51	19 19	29 5	13 22	3 8	1 0

March, 1781.

13

Days	Day lig. begins.	Day lig. ends.	Durat. Twilig.	Node D in S	Lat. h North.	Lat. 1/2 North.	Lat. δ North.	Lat. ♀ South.	Lat. ♂ South.			
1	4 43	7 17	1 55	7 33	1 32	1 6	0 24	0 48	0 49			
7	4 30	7 30	1 56	7 13	1 32	1 7	0 18	1 0	ON. 17			
13	4 17	7 43	1 57	6 54	1 33	1 8	0 11	1 11	1 35			
19	4 4	7 56	1 58	6 25	1 33	1 9	0 4	1 19	2 44			
25	3 50	8 10	2 0	6 10	1 34	1 9	OS. 4	1 25	3 21			
Days	☉ d.	☿ m.	s.	D ♂	Lat. D	h	1/2	♂	♀	☿	♂	☿
1	11	20	38	19 18	1N. 12	19	26	27	16	16	28	17 32 20 35
2	12	20	43	1 11 31	2 14	19	28	27	18	17	2 18	46 22 29
3	13	20	45	14 2	3 11	19	31	27	20	17	36	20 0 24 23
G	14	20	45	26 56	4 0	19	33	27	21	18	10 21	14 26 16
5	15	20	43	10 5 17	4 38	19	35	27	23	18	43	22 29 28 7
6	16	20	39	24 8	5 2	19	38	27	24	19	17	23 43 29 57
7	17	20	32	3 28	5 8	19	40	27	25	19	51	24 57 1 44
8	18	20	23	23 14	4 53	19	42	27	26	20	24	26 11 3 27
9	19	20	12	8 20	4 19	19	45	27	26	20	58	27 25 5 8
10	20	19	59	13 36	3 26	19	47	27	27	21	31	28 39 6 46
G	21	19	44	8 50	2 48	19	49	27	27	22	4	29 54 8 19
12	22	19	27	23 54	1 1	19	51	27	28	22	37	1 8 9 47
13	23	19	8	8 39	OS. 19	19	52	27	28	23	10 2	22 11 10
14	24	18	48	23 6	1 36	19	54	27	28	23	43	3 36 12 27
15	25	18	26	6 55	2 44	19	55	27	27	24	15	4 50 13 38
16	26	18	3	20 24	3 41	19	50	27	27	24	48	6 4 14 43
17	27	17	38	3 30	4 25	19	57	27	26	25	21	7 19 15 42
G	28	17	11	16 16	4 55	19	58	27	26	25	53	8 33 16 33
19	29	16	42	28 45	5 9	19	50	27	25	26	26	9 47 17 14
20	Y 16	10	11 33	C	5 10	20	0	27	24	26	58	11 1 17 50
21	1	15	36	23 6	4 50	20	1	27	22	27	30	12 15 18 18
22	2	15	1	5 4	4 49	20	1	27	21	28	3	13 29 18 39
23	3	14	25	16 56	3 51	20	2	27	19	28	35	14 44 18 50
24	4	13	48	28 46	3 3	20	2	27	17	29	7	15 58 18 56
G	5	13	9	10 34	2 8	20	3	27	15	29	38	17 12 18 51
26	6	12	28	22 23	1 6	20	3	27	12	OS. 9	18	26 18 41
27	7	11	44	4 15	0 2	20	3	27	10	0	41	19 40 18 24
28	8	10	57	16 12	IN. 4	20	3	27	7	1	12	20 54 18 1
29	9	10	8	28 18	2 7	20	Rx	3	27	4	1	43 22 9 17 33
30	10	9	17	10 35	3 6	20	3	27	1	2	14	23 23 16 57
31	11	8	24	23 2	3 57	20	3	26	58	2	44	24 37 16 21
Days	Jupiter rises.	Mars rises.	Venus rises.	Mercur. sets.	Dec. h South.	Dec. 1/2 South.	Dec. δ South.	Dec. ♀ South.	Dec. ♂ South.			
1	OM 27	2 12	5M 53	6A 20	21 31	18 30	22 23	16 22	4 29			
7	0 7	2 6	5 47	7 32	21 32	18 31	22 47	14 10	ON. 57			
13	11A 42	2 0	5 41	7 38	21 33	18 31	23 6	11 45	5 52			
19	11 19	1 55	5 33	7 53	21 33	18 30	23 21	9 8	9 18			
25	10 57	1 49	5 24	7 42	21 32	18 26	23 32	6 22	10 30			

The LUNATIONS.

First Quarter the 1st Day, 2 Minutes past Midnight.

Full Moon the 8th Day, 41 Minutes past 3 in the Afternoon.

Last Quarter the 15th Day, 15 Minutes past 1 in the Afternoon.

New Moon the 23d Day, 21 Minutes past 5 in the Afternoon.

M D.	Sundays & other remark. Days.	Sun rises.	Sun sets.	Dec. ☉ North.	Dec. ☾ North.	Moon sets.	Moon South.	Clock bef. Sun	
G 1	5 Sun. in Lent.	5 33	6 28	4 48	27 57	2M 5	5A 57	3 48	
2		5 31	6 30	5 11	27 6	3 0	6 55	3 30	
3	Richard.	5 29	6 32	5 34	24 38	3 40	7 52	3 12	
4	St. Ambrose.	5 27	6 34	5 57	20 38	4 12	8 49	2 54	
5	Old Lady Day.	5 25	6 36	6 19	15 18	4 34	9 43	2 34	
6	Camb. T. ends.	5 23	6 38	6 42	8 57	4 51	10 36	2 18	
7	Oxf. Term ends.	5 21	6 40	7 5	1 59	5 7	11 28	2 1	
G 8	Palm Sunday.	5 19	6 42	7 27	5 S. 8	☾ rises	Morn.	1 44	
9		5 17	6 44	7 49	11 57	8A 19	0 21	1 27	
10		5 15	6 46	8 11	17 9	9 53	1 16	1 10	
11		5 13	6 48	8 33	22 49	11 23	2 11	0 53	
12	Maundy Thurs.	5 11	6 50	8 55	26 8	Morn.	3 10	0 37	
13	Good Friday.	5 10	6 51	9 17	27 47	0 45	4 9	0 21	
14		5 8	6 53	9 38	27 46	1 51	5 8	0 6	
G 15	Easter Day.	5 6	6 55	10 0	26 15	2 39	6 4	oast. 9	
16	Easter Monday.	5 4	6 57	10 21	23 27	3 15	6 56	0 24	
17	Easter Tuesday.	5 2	6 59	10 42	19 41	3 37	7 44	0 38	
18		5 0	7 1	11 3	15 10	3 54	8 30	0 52	
19	Alphege.	4 58	7 3	11 24	10 8	4 7	9 12	1 5	
20		4 56	7 5	11 44	4 46	4 19	9 51	1 18	
21		4 54	7 7	12 5	0N. 46	4 29	10 31	1 31	
G 22	Low Sunday.	4 52	7 9	12 25	6 17	4 40	11 10	1 43	
23	St. George.	4 51	7 10	12 45	11 37	☾ sets.	11 51	1 55	
24		4 49	7 12	13 4	16 35	8A 23	0A 33	2 6	
25	St. Marks.					9 39	1 19	2 17	
26		4 45	7 16	13 43	24 28	10 53	2 9	2 27	
27		4 43	7 18	14 2	26 53	Morn.	3 1	2 37	
28		4 41	7 20	14 21	27 57	0 3	3 57	2 46	
G 29	2 S. aft. Easter.	4 40	7 21	14 40	27 31	1 3	4 54	2 55	
30		4 38	7 23	14 58	25 30	1 49	5 51	3 3	
Days	Day increaf.	Length of Day.	Helioc. Plac. ♀	Helioc. Plac. ♀	Helioc. Plac. ♂	Helioc. Plac. ☉	Helioc. Plac. ♀	Helioc. Plac. ♂	Saturn rises.
1	5 11	12 55	14 46	19m 23	23m 5	12 7	3X 8	6 50	0M 32
7	5 35	13 19	14 57	19 51	26 11	18 1	12 39	27 26	0 10
13	5 57	13 41	15 7	20 19	29 19	23 53	22 10	15m 41	11A 45
19	6 21	14 5	15 18	20 47	2 30	29 45	1V 42	2 38	11 22
25	6 43	14 27	15 29	21 15	5 42	5m 35	11 15	19 8	10 58

April, 1781.

15

Days	Day lig. begins.	Day lig. ends.	Durat. Twilig.	Node D in S	Lat. h North	Lat. 21 North	Lat. ♂ South.	Lat. ♀ South.	Lat. ♂ North.		
1	3 33	8 27	2 3	5 54	1 34	1 10	0 15	1 29	2 57		
2	3 17	8 43	2 8	5 3	1 35	1 10	0 25	1 30	1 38		
3	3 2	8 58	2 11	5 16	1 35	1 11	0 36	1 28	0 0		
4	2 47	9 13	2 15	4 57	1 36	1 11	0 49	1 24	1S. 26		
5	2 26	9 34	2 25	4 34	1 36	1 11	1 3	1 19	2 25		
Days	☉ d. m. s.	☿ d. m. s.	♂ d. m. s.	♀ d. m. s.	Lat. D	h R	21 R	♂	♀	♂	♀
G	12 7 26	6 1	4N. 37	20 3	26 54	3 14	25 51	15 41			
2	13 6 29	19 16	5 5	20 3	26 41	3 45	27 8	14 57			
3	14 5 28	2 57	5 16	20 2	26 47	4 15	28 19	14 10			
4	15 4 25	17 4	5 8	20 2	26 43	4 45	29 33	13 21			
5	16 3 20	1 36	4 41	20 1	26 39	5 15	30 47	12 33			
6	17 2 12	16 30	3 5	20 1	26 35	5 44	2 1	11 47			
7	18 1 1	1 37	2 52	20 0	26 30	6 14	3 15	11 3			
G	18 59 49	16 45	1 36	19 59	26 25	6 43	4 29	10 21			
9	19 58 35	1 57	0 14	19 58	26 20	7 13	5 43	9 42			
10	20 57 9	16 50	1 S. 8	19 57	26 15	7 42	6 57	9 8			
11	21 56 1	1 23	2 24	19 55	26 10	8 11	8 11	8 37			
12	22 54 42	15 30	3 29	19 54	26 5	8 39	9 25	8 11			
13	23 53 21	29 10	4 19	19 52	26 0	9 7	10 39	7 50			
14	24 51 58	12 24	4 54	19 50	25 54	9 31	11 53	7 33			
G	25 50 34	25 14	5 13	19 49	25 49	10 2	13 7	7 22			
16	26 49 9	7 44	5 17	19 47	25 43	10 30	14 21	7 17			
17	27 47 41	19 57	5 6	19 45	25 37	10 57	15 35	7D 16			
18	28 46 11	1 58	4 43	19 44	25 31	11 24	16 48	7 21			
19	29 44 40	13 51	4 6	19 42	25 25	11 51	18 2	7 30			
20	30 43 8	25 40	3 10	19 4	25 19	12 17	19 16	7 44			
21	1 41 34	7 28	2 24	19 38	25 12	12 44	20 30	8 3			
G	2 39 59	19 17	1 23	19 36	25 6	13 10	21 44	8 27			
23	3 38 21	1 11	0 18	19 33	24 59	13 36	22 58	8 55			
24	4 36 42	13 11	0N. 48	19 31	24 53	14 12	24 12	9 27			
25	5 35 1	25 19	1 53	19 29	24 46	14 26	25 26	10 2			
26	6 33 18	7 37	2 54	19 26	24 39	14 50	26 40	10 40			
27	7 31 33	20 7	3 48	19 23	24 32	15 15	27 54	11 23			
28	8 29 46	2 51	4 31	19 21	24 25	15 39	29 7	12 11			
G	9 27 57	15 51	5 1	19 18	24 18	16 3	30 21	13 2			
30	10 26 6	29 9	5 16	19 15	24 11	16 27	31 35	13 56			
Days	Jupiter rises.	Mars rises.	Venus rises.	Mercur. rises.	Dec. h South.	Dec. 21 South.	Dec. ♂ South.	Dec. ♀ South.	Dec. ♂ North.		
1	10 A 30	1 M 42	5 M 15	rises.	21 32	18 21	23 41	3 1	8 55		
7	10 6	1 34	5 6	4 M 58	21 31	18 16	23 40	0 6	5 53		
13	9 41	1 24	4 56	4 43	21 30	18 8	23 45	2N. 52	3 6		
19	9 15	1 13	4 46	4 28	21 28	17 59	23 45	5 47	1 40		
25	8 49	1 2	4 36	4 17	21 27	17 50	23 44	8 38	1 45		

The LUNATIONS.

First Quarter the 1st Day, 27 Minutes past 9 in the Morning.

Full Moon the 7th Day, 19 Minutes past Midnight.

Last Quarter the 15th Day, 22 Minutes past 4 in the Morning.

New Moon the 23d Day, 21 Minutes past 8 in the Morning.

First Quarter the 30th Day, 48 Minutes past 3 in the Afternoon.

M D.	Sundays & other remark. Days.	Sun rises.	Sun sets.	Dec. ☉ North.	Dec. ☽ North.	Moon sets.	Moon South.	Clock aft. Sun.	
1	St. Phil. & Jam.	4 35	7 25	15 16	22 1	2M 21	6 A 46	3 11	
2	Term begins.	4 34	7 27	15 34	17 14	2 45	7 39	3 18	
3	Inv. of the Cross	4 33	7 28	15 52	11 24	3 3	8 30	3 25	
4		4 31	7 30	16 9	4 50	3 19	9 20	3 31	
5		4 30	7 31	16 26	2 S. 5	3 32	10 11	3 36	
6	3 S. aft. Easter.	St. John A.P.L.		16 43	8 58	3 45	11 3	3 42	
7		4 26	7 35	16 59	15 22	☽ rises.	11 58	3 46	
8		4 25	7 36	17 16	20 49	8 A 56	Morn.	3 50	
9		4 23	7 38	17 32	24 53	10 23	0 56	3 53	
10		4 22	7 39	17 47	27 18	11 39	1 56	3 56	
11		4 20	7 41	18 3	27 58	Morn.	2 57	3 58	
12	Old May Day.	4 18	7 42	18 18	26 56	0 36	3 56	4 0	
13	4 S. aft. Easter.	4 17	7 44	18 33	24 29	1 18	4 51	4 1	
14		4 16	7 45	18 47	20 55	1 45	5 42	4 1	
15		4 14	7 47	19 1	16 33	2 5	6 29	4 1	
16		4 12	7 48	19 15	11 36	2 18	7 12	4 0	
17		4 11	7 50	19 29	6 18	2 28	7 53	3 58	
18		4 10	7 51	19 42	0 48	2 40	8 32	3 57	
19	Q. Charlotte b.	Dunstan	7 52	19 55	4N 44	2 50	9 11	3 54	
20	G Rogat. Sunday.	4 6	7 54	20 7	10 8	3 0	9 50	3 51	
21		4 5	7 55	20 19	15 14	3 13	10 33	3 48	
22	Pra. Eliz. born.	4 3	7 57	20 31	19 49	3 28	11 17	3 43	
23		4 2	7 58	20 42	23 37	☽ sets.	0 A 4	3 39	
24	Holy Thursday	4 1	7 59	20 54	26 21	9 A 55	0 57	3 33	
25		4 0	8 0	21 4	27 47	10 58	1 53	3 28	
26	Augustin A. B.	3 59	8 1	21 15	27 41	11 49	2 50	3 21	
27	6 S. aft. Easter.	Ven. Bede.	2 21	25 26	1 Morn.	3 47	3 15	3 15	
28	Term ends.	3 57	8 3	21 34	22 52	0 24	4 42	3 8	
29	K. Ch. II. Rest.	3 56	8 4	21 44	18 24	0 50	5 35	3 0	
30		3 55	8 5	21 53	12 53	1 9	6 25	2 52	
31	Oxf. Term ends.	3 54	8 6	22 1	6 41	1 25	7 14	2 44	
Days	Day	Length of Day.	Helioc. Plac. ♀	Helioc. Plac. ☿	Helioc. Plac. ♂	Helioc. Plac. ☾	Helioc. Plac. ♀	Helioc. Plac. ♂	Saturn rises.
1	7 5	14 49	15 40	21 43	8 56	11 24	20 49	5 55	10 A 33
7	7 25	15 9	15 51	22 10	12 13	17 12	0 24	23 46	10 8
13	7 43	15 27	16 22	30 15	31 22	59 10	0 33	33 36	9 43
19	8 1	15 45	16 13	23 7	18 52	28 46	19 38	6 31	9 17
25	8 16	16 0	16 23	23 35	22 14	4 31	29 16	3 49	8 50

May, 1781.

17

Days	Day lig. begins.	Day lig. ends.	Durat. Twilig.	Node D in 8	Lat. ♀ North	Lat. ♀ North	Lat. ♂ South	Lat. ♀ South	Lat. ♂ South
1	2 6	9 57	2 37	4 15	1 30	1 11	1 18	1 10	2 58
7	1 44	10 19	2 48	4 6	1 35	1 11	1 35	0 59	3 4
13	1 19	10 45	3 5	3 41	1 37	1 10	1 54	0 48	2 49
19	0 48	11 20	3 32	3 22	1 3	1 10	2 14	0 36	2 12
25	No Nig.	No Nig.	No Nig.	3 2	1 37	1 9	2 36	0 23	1 20
Days	⊙ d. m. s.	♂ D Ω	Lat. D	♀ R	♀ R	♂ R	♀ R	♂ R	♀ R
1	11 24 13	12 46	5N. 14	19 12	24 4	16 50	2 49	14 53	
2	12 22 18	26 43	4 54	19 9	23 57	17 13	4 3	15 53	
3	13 20 21	10m 59	4 15	19 5	23 49	17 35	5 17	16 56	
4	14 18 22	25 32	3 20	19 23	42 17	58 6	31 18	1	
5	15 16 21	10m 18	2 10	18 59	23 34	18 20	7 45	19 9	
G	16 14 18	25 12	0 51	18 56	23 27	18 42	8 59	20 20	
7	17 12 14	10m 6	0S. 31	18 52	23 19	19 3	10 13	21 33	
8	18 10 8	24 53	1 51	18 49	23 12	19 24	11 26	22 49	
9	19 8 0	9f 24	3 2	18 46	23 6	19 44	12 40	24 8	
10	20 5 51	23 34	4 0	18 42	22 57	20 4	13 54	25 30	
11	21 3 41	7h 20	4 42	18 39	22 49	20 23	15 8	26 53	
12	22 1 30	20 40	5 7	18 35	22 42	20 42	16 21	28 18	
G	22 59 18	3m 36	5 16	18 31	22 34	21 0	17 35	29 45	
14	23 57 4	16 9	5 9	18 28	22 26	21 18	18 49	18 14	
15	24 54 49	28 24	4 49	18 24	22 19	21 35	20 3	2 46	
16	25 52 33	10h 26	4 16	18 20	22 11	21 52	21 17	4 20	
17	26 50 16	22 19	3 32	18 16	22 3	22 8	22 31	5 57	
18	27 47 58	4v 7	2 39	18 12	21 56	22 24	23 44	7 37	
19	28 45 39	15 55	1 40	18 8	21 48	22 40	24 58	9 19	
G	29 43 20	27 48	0 36	18 3	22 40	22 55	26 12	11 3	
21	II 41 0	9h 40	0N. 30	17 59	21 33	23 10	27 26	12 49	
22	I 38 39	21 59	1 35	17 55	21 25	23 24	28 39	14 37	
23	2 36 16	4II 21	2 37	17 51	21 18	23 38	29 53	16 27	
24	3 33 52	16 57	3 32	17 46	21 11	23 51	1II 7	18 19	
25	4 31 26	29 46	4 18	17 42	21 4	24 3	1 20	20 13	
26	5 28 59	12h 46	4 51	17 38	20 57	24 15	3 34	22 9	
G	6 26 31	26 6	5 9	17 34	20 50	24 26	4 48	24 8	
28	7 24 2	9Ω 37	5 11	17 29	20 43	24 36	6 12	26 9	
29	8 21 32	23 20	4 55	17 25	20 36	24 45	7 15	28 12	
30	9 19 0	7m 15	4 21	17 21	20 29	24 54	8 29	0II 16	
31	10 16 26	21 22	3 32	17 16	20 22	25 2	9 42	2 22	
Days	Jupiter rises.	Mars rises.	Venus rises.	Mercu. rises.	Dec. ♀ South.	Dec. ♀ South.	Dec. ♂ South.	Dec. ♀ North.	Dec. ♂ North.
1	8 A 22	0M 49	4M 26	4M 3	21 25	17 40	23 41	11 22	3 8
7	7 55	0 36	4 17	3 54	21 23	17 29	23 40	13 58	5 34
13	sets.	0 23	4 9	3 45	21 21	17 18	23 42	16 19	8 46
19	4M 7	0 6	4 2	3 36	21 19	17 7	23 47	18 25	12 31
25	3 40	1A 48	3 56	3 32	21 17	16 56	23 45	20 17	16 12

B

The LUNATIONS.

Full Moon the 6th Day, 54 Minutes past 8 in the Morning.

Last Quarter the 13th Day, 5 Minutes past 9 at Night.

New Moon the 21st Day, 35 Minutes past 8 at Night.

First Quarter the 28th Day, 28 Minutes past 8 at Night.

M D.	Sundays & other remark. Days.	Sun rises.	Sun sets.	Dec. ☉ North.	Dec. ☽ North.	Moon sets.	Moon South.	Clock aft. Sun	
1	Nicomede.	3 52	8 7	22 9	0 2	1M37	8 A 2	2 35	
2		3 52	8 8	22 17	6 S.41	1 51	8 51	2 26	
3	Whit-Sunday.	3 51	8 9	22 24	13 6	2 4	9 43	2 16	
4	Whit-Monday. K. Geo. III. born			22 31	18 48	2 19	10 38	2 6	
5	Whit-Tuesday. Pr. Ern. Aug. bor.			Bonifa.	23 23	2 42	11 36	1 56	
6	Ember Week.	3 49	8 11	22 44	26 28	Drises.	Morn.	1 45	
7		3 48	8 12	22 50	27 50	10 A 19	0 36	1 35	
8		3 48	8 12	22 55	27 26	11 8	1 37	1 23	
9		3 47	8 13	23 0	25 27	11 42	2 35	1 12	
10	Trinity Sunday. Pre. Amelia bor.			23 5	22 12	Morn.	3 29	1 0	
11	St. Barnabas.	3 46	8 14	23 9	17 59	0 5	4 17	0 49	
12		3 46	8 14	23 13	13 8	0 20	5 3	0 36	
13	Oxf. Term beg.	3 46	8 14	23 16	7 52	0 33	5 45	0 24	
14	Corpus Christi.	3 45	8 15	23 19	2 24	0 44	6 25	0 11	
15	Term begins.	3 45	8 15	23 22	3 N. 9	0 54	7 4	obef.	
16		3 44	8 16	23 24	8 35	1 4	7 43	0 14	
17	1st Sun. aft. Trin.	St. Alban.	16	23 26	13 46	1 15	8 24	0 2	
18		3 43	8 17	23 27	18 31	1 28	9 7	0 4	
19		3 43	8 17	23 28	22 34	1 45	9 54	0 5	
20	Tr. Edw. K. WS.	3 43	8 17	23 28	25 39	2 8	10 44	1	
21	Longest Day.	3 43	8 17	23 28	27 28	2 sets.	11 40	1 1	
22		3 43	8 17	23 28	27 47	9 A 40	0 A 37	1 3	
23		3 43	8 17	23 27	26 30	10 20	1 35	1 4	
24	2d Sun. aft. Trin.	St. John Bapt.		23 26	23 37	10 49	2 32	1 5	
25		3 44	8 16	23 24	19 21	11 9	3 26	2 1	
26		3 44	8 16	23 22	14 11	11 26	4 17	2 2	
27		3 44	8 16	23 20	7 55	11 39	5 5	2 3	
28		3 45	8 15	23 17	1 23	11 52	5 53	2 3	
29	St. Peter.	3 45	8 15	23 14	5 S. 13	Morn.	6 41	3	
30		3 46	8 14	23 10	11 35	0 4	7 31	3	
Days	Day increaf.	Length of Day.	Helioc. Plac. ♀	Helioc. Plac. ♀	Helioc. Plac. ♂	Helioc. Plac. ☉	Helioc. Plac. ♀	Helioc. Plac. ♂	Satur rises.
1	8 30	16 14	16 136	24 7	26 13	11 14	10 11 32	12 8 20	8 A 2
7	3 40	16 24	16 47	24 35	29 40	16 58	20 12	19 11 37	sets
13	8 44	16 28	16 58	25 3	3 9	22 42	29 54	26 26 26	3 M 2
19	8 50	16 34	17 9	25 31	6 40	28 25	9 37	28 12 40	3 2
25	odec. 2	16 32	17 19	25 59	10 12	4 9	19 20	25 11 21	2 4

June, 1781

19

Days	Daylig. begins.	Day lig. ends.	Durat. Twilig.	Node D in S	Lat. h North.	Lat. 1/2 North.	Lat. S South.	Lat. ♀ South.	Lat. ♂ South.		
1				2 40	1 37	1 8	3 4	0 6	0 6		
7	All	All	All	2 21	1 37	1 7	3 30	0 N. 8	0 N. 55		
13	Day	Day	Day	2 2	1 36	1 5	3 57	0 22	1 38		
19	Light.	Light.	Light.	1 43	1 35	1 4	4 24	0 35	1 57		
25				1 24	1 34	1 2	4 50	0 48	1 49		
Days	☉ d.	☿ m.	♂ s.	☿ D	Lat. D	h R	1/2 R	♂ S	♀ S	♂ N	♀ N
1	11	13	51	5 38	2 N 28	17	12	20	15	25	10
2	12	11	15	20 3	1 15	17	8	20	5	25	17
G	13	8	38	4 m 32	0 S. 3	17	3	20	2	25	24
4	14	6	0	19 2	1 21	16	59	19	55	25	30
5	15	3	21	3 f 28	2 33	16	55	19	49	25	33
6	16	0	41	17 43	3 35	16	50	19	42	25	40
7	16	58	0	1 f 43	4 22	16	46	19	36	25	44
8	17	55	19	15 24	4 54	16	42	19	30	25	48
9	18	52	37	28 43	5 8	16	37	19	25	25	51
G	19	49	45	11 m 39	5 6	16	33	19	19	25	52
11	20	47	12	24 14	4 49	16	29	19	13	25	52
12	21	44	29	6 h 30	4 19	16	27	19	7	25	51
13	22	41	46	18 33	3 38	16	20	19	2	25	50
14	23	39	2	0 v 26	2 48	16	17	18	57	25	48
15	24	36	17	12 15	1 51	16	11	18	52	25	46
16	25	33	33	24 5	0 50	16	7	18	47	25	43
G	26	30	49	6 h 1	0 N. 15	16	3	18	42	25	39
18	27	28	5	18 8	1 19	15	58	18	37	25	35
19	28	25	21	0 II 28	2 21	15	54	18	33	25	30
20	29	22	37	13 5	3 17	15	50	18	29	25	23
21	30	19	52	25 59	4 4	15	45	18	25	25	16
22	1	17	7	9 50	4 39	15	41	18	21	25	8
23	2	14	22	22 38	5 0	15	37	18	17	24	59
G	3	11	36	6 19	5 4	15	32	18	13	24	50
25	4	8	50	20 11	4 50	15	28	18	10	24	40
26	5	6	3	4 m 10	4 19	15	24	18	7	24	30
27	6	3	15	18 14	3 32	15	20	18	4	24	19
28	7	0	27	2 21	2 32	15	16	18	1	24	8
29	7	57	39	16 30	1 23	15	12	17	58	23	56
30	8	54	50	0 m 39	0 8	15	8	17	55	23	44
Days	Jupiter sets.	Mars rises.	Venus rises.	Mercur. rises.	Dec. h South.	Dec. 1/2 South.	Dec. S South.	Dec. ♀ North.	Dec. ♂ North.		
1	3 M 9	11 A 25	3 M 53	3 M 32	21 14	16	44	24 8	22 0		
7	2 43	11 5	sets.	sets.	21 12	16	35	24 28	23 5		
13	2 17	10 45	8 A 31	9 A 3	21 10	16	27	24 53	23 46		
19	1 51	10 22	8 41	9 29	21 9	16	21	25 23	24 1		
25	1 25	9 48	8 47	9 40	21 7	16	15	25 58	23 52		

The LUNATIONS.

Full Moon the 5th Day, 19 Minutes past 6 in the Afternoon.

Last Quarter the 13th Day, 25 Minutes past 2 in the Afternoon.

New Moon the 21st Day, 34 Minutes past 6 in the Morning.

First Quarter the 28th Day, 5 Minutes past 1 in the Morning.

M.D.	Sundays & other remark. Days.	Sun rises.	Sun sets.	Dec. ☉ North.	Dec. ☽ South.	Moon sets.	Moon South.	Clock bef. Sun	
G 1	Sun. aft. Trin	3 46	8 14	23 6	17 21	0 M 21	8 A 23	3 23	
2	Visit. B. V. Mary	3 46	8 14	23 2	22 9	0 39	9 19	3 35	
3	Camb. Commen.	3 46	8 14	22 57	25 39	1 5	10 17	3 46	
4	Term ends.	Tr. of S. Martin.	22 52	27 33	1 42	11 17	3 56	4 6	
5	Old Midf. Day.	3 48	8 12	22 46	27 44	D rises.	Morn.	4 6	
6	Camb. T. ends.	3 49	8 11	22 40	26 16	9 A 34	0 16	4 16	
7	Thomas à Beck.	Oxford Acc.	10 22	34 23	24 10	0 1	11 4	4 26	
G 8	Sun. aft. Trin.	3 50	8 10	22 27	19 27	10 18	2 3	4 39	
9		3 52	8 9	22 19	14 42	10 34	2 51	4 44	
10		3 52	8 8	22 12	9 29	10 46	3 35	5 53	
11		3 53	8 7	22 4	4 1	10 56	4 15	5 1	
12		3 54	8 6	21 56	IN. 33	11 6	4 55	5 8	
13		3 55	8 5	21 47	7 2	11 16	5 34	5 19	
14	Oxf. T. ends.	3 56	8 4	21 38	12 18	11 28	6 14	5 22	
G 15	Sun. aft. Trin	Swithin	8 3	21 28	17 10	11 43	6 56	5 28	
16		3 58	8 2	21 18	21 25	Morn.	7 41	5 34	
17		3 59	8 1	21 8	24 50	0 4	8 30	5 40	
18		4 0	8 0	20 58	27 5	0 34	9 23	5 44	
19		4 1	7 59	20 47	27 54	1 16	10 20	5 49	
20	Margaret.	4 3	7 57	20 35	27 6	2 16	11 19	5 52	
21		4 4	7 56	20 22	24 38	D sets.	0 A 18	5 55	
G 22	Sun. aft. Trin	St. Mary Magd.	20 12	20 39	9 A 11	1 14	5 58	6 0	
23		4 7	7 53	20 0	15 26	9 28	2 8	6 0	
24		4 8	7 52	19 47	9 19	9 43	2 59	6 1	
25	St. James.	4 10	7 50	19 34	2 44	9 57	3 47	6 1	
26	St. Anne, M. of B. V. M.	7 49	19 21	3 S. 58	10 10	4 36	6 1	6 1	
27		4 13	7 47	19 7	10 37	10 25	5 25	6 2	
28		4 14	7 46	18 53	16 20	10 41	6 16	6 2	
G 29	Sun. aft. Trin.	4 15	7 45	18 39	21 19	11 4	7 10	6 2	
30		4 17	7 43	18 24	25 4	11 37	8 7	5 57	
31		4 18	7 42	18 10	27 20	Morn.	9 5	5 44	
Days	Day decreas.	Length of Day.	Helioc. Plac. ♀	Helioc. Plac. ☿	Helioc. Plac. ♂	Helioc. Plac. ☾	Helioc. Plac. ♀	Helioc. Plac. ☿	Satur sets.
1	0 6	16 28	17 30	26 11	27 13	48 9	52 20	5 17	2 M 37
7	0 12	16 22	17 41	26 55	17 25	15 35	8 50	6 15	1 5
13	0 24	16 10	17 52	27 23	21 3	21 18	18 36	24 22	1 19
19	0 36	15 58	18 2	27 51	24 43	27 2	28 21	11 1	0 1
25	0 54	15 40	18 13	28 19	28 24	2 46	8 7	27 33	0 1

July, 1781.

21

Days	Day lig. begins.	Day lig. ends.	Durat. Twilig.	Node D in S	Lat. h North.	Lat. 11 North.	Lat. δ South.	Lat. ♀ North.	Lat. ♂ North.	
1				I 5	I 3	I 1	5 15	I C	I 19	
7	All Day Light.	All Day Light.	All Day Light.	0 46	I 32	I C	5 37	1000	10 30	
13				0 27	I 32	0 58	5 54	I 18	0 S. 34	
19				0 8	I 31	0 57	6 4	I 24	I 49	
25	0 45	11 7	3 20	29 V 49	I 20	0 55	6 6	I 28	3 8	
Days	☉ d.	☽ m.	s.	D n	Lat. D	h R	11 R	δ R	♀ R	♂ R
G	9	52	1	14 47	1 S. 6	15 4	17 52	23 32	17 48	3 9
2	10	49	13	28 52	2 17	15 0	17 50	23 19	19 2	4 37
3	11	46	24	12 52	3 18	14 56	17 48	23 5	20 16	6 2
4	12	43	35	26 44	4 7	14 53	17 46	22 50	21 30	7 25
5	13	40	45	10 23	4 41	14 49	17 44	22 35	22 43	8 46
6	14	37	56	23 48	4 59	14 45	17 42	22 19	23 57	10 4
7	15	35	6	6 55	5 0	14 42	17 41	22 3	25 11	11 20
G	16	32	17	19 44	4 46	14 38	17 40	21 47	26 25	12 33
9	17	29	28	2 15	4 19	14 35	17 39	21 31	27 38	13 44
10	18	26	39	14 29	3 40	14 32	17 38	21 15	28 52	14 54
11	19	23	51	26 31	2 52	14 29	17 37	20 58	0 6	15 59
12	20	21	5	8 23	1 56	14 26	17 37	20 41	1 20	17 2
13	21	18	20	20 12	0 56	14 23	17 36	20 24	2 33	18 1
14	22	15	35	2 3	0 N. 6	14 20	17 36	20 7	3 47	18 57
G	23	12	51	14 0	1 9	14 17	17 36	19 50	5 1	19 50
16	24	10	7	26 10	2 10	14 14	17 36	19 33	6 15	20 41
17	25	7	24	8 37	3 6	14 12	17 37	19 16	7 28	21 29
18	26	4	41	21 23	3 54	14 9	17 37	18 59	8 42	22 13
19	27	2	59	4 32	4 31	14 6	17 38	18 43	9 56	22 52
20	27	59	18	18 3	4 54	14 3	17 39	18 27	11 20	23 27
21	28	56	38	1 54	5 0	14 1	17 40	18 11	12 24	23 59
G	29	53	59	16 0	4 49	13 58	17 41	17 55	13 38	24 28
23	30	51	20	0 17	4 20	13 56	17 43	17 40	14 51	24 52
24	1	48	42	14 39	3 33	13 53	17 45	17 25	16 5	25 11
25	2	46	4	29 1	2 34	13 51	17 47	17 10	17 10	25 29
26	3	43	27	13 20	1 24	13 49	17 49	16 56	18 32	25 35
27	4	40	50	27 31	0 10	13 47	17 52	16 42	19 46	25 40
28	5	38	14	11 35	1 S. 4	13 45	17 54	16 29	21 0	25 39
G	6	35	38	25 30	2 13	13 44	17 56	16 17	22 13	25 33
30	7	33	2	9 17	3 14	13 42	17 59	16 6	23 27	25 22
31	8	30	26	22 55	4 3	13 40	18 2	15 56	24 41	25 6
Days	Jupiter sets.	Mars rises	Venus sets.	Mercu. sets.	Dec. h North	Dec. 11 South.	Dec. δ South.	Dec. ♀ North.	Dec. ♂ North	
1	0 M 59	9 A 33	8 A 49	9 A 37	21 5	16 1	26 34	23 16	20 46	
7	0 33	9 7	8 50	9 27	21 4	16 1	27 12	22 16	17 53	
13	0 10	sets.	8 48	9 11	21 2	16 1	27 45	20 5	14 55	
19	11 43	2 M 46	8 45	8 49	21 1	16 1	28 10	19 8	12 12	
25	11 19	2 12	8 36	8 22	21 0	16 1	28 28	17 4	10 7	

The LUNATIONS.

Full Moon the 4th Day, 31 Minutes past 5 in the Morning.

Last Quarter the 12th Day, 48 Minutes past 7 in the Morning.

New Moon the 19th Day, 21 Minutes past 3 in the Afternoon.

First Quarter the 26th Day, 4 Minutes past 7 in the Morning.

M.D.	Sundays & other remark. Days.	Sun rises.	Sun sets.	Dec. ☉ North.	Dec. ☾ South.	Moon sets.	Moon South.	Clock bef. Sun
1	Lammas Day.	4 20	7 40	17 54	27 5	0M 24	10 A 3	5 51
2		4 21	7 39	17 39	26 5	I 24	II 1	5 57
3		4 23	7 37	17 23	24 27	2 37	II 53	5 42
4		4 24	7 36	17 7	20 48	Dr. ses	Morn.	5 37
5	8 Sun. aft. Trin.	4 25	7 34	16 51	16 15	8 A 38	0 42	5 31
6	Transfiguration.	4 27	7 32	16 34	11 7	0 51	1 28	5 24
7	Name of Jesus.	4 28	7 31	16 18	5 3	9 2	2 10	5 17
8		4 30	7 29	16 1	0 3	9 12	2 50	5 10
9		4 31	7 28	15 43	5N. 31	9 22	3 30	5 1
10	St. Laurence.	4 33	7 27	15 26	10 51	9 34	4 9	4 53
11	Pr. Brunw. bo.	Dog Days end.		15 8	15 5	9 48	4 51	4 43
12	9 Sun. aft. Trin.	Pr. Wales born.		O. Lammas Day.		10 5	5 35	4 33
13		4 38	7 21	14 31	3 57	10 31	6 22	4 23
14		4 40	7 19	14 1	6 3	II 6	7 13	4 12
15	Affum. B. V. M.	4 42	7 17	13 54	27 56	II 58	8 8	4 1
16	Pr. Fred. born.	4 44	7 15	13 39	7 45	Morn	9 5	3 49
17		4 45	7 14	13 14	25 53	I 7	10 4	3 36
18		4 47	7 12	12 5	22 24	2 30	II 3	3 23
19	10 Sun. aft. Trin.	4 49	7 10	12 3	17 29	D. sets	II 59	3 10
20		4 51	7 8	12 1	11 29	7 A 2	0 A 52	2 56
21	Pr. W. H. born.	4 53	7 6	11 57	4 48	8 6	1 43	2 42
22		4 54	7 5	11 37	2 S. 9	8 20	2 33	2 27
23		4 55	7 3	11 16	8 56	8 34	3 24	2 12
24	St. Bartholomew	4 58	7 1	10 56	15 10	8 50	4 17	1 56
25		5 0	6 59	10 35	20 28	9 11	5 11	1 40
26	11 Sun. aft. Trin.	5 2	6 57	10 14	24 33	9 41	6 7	1 23
27		5 4	6 55	9 53	27 9	10 24	7 5	1 6
28	St. Augustine.	5 6	6 53	9 32	28 7	II 20	8 4	0 49
29	S. J. Bap. behead.	5 8	6 51	9 10	27 2	Morn	9 0	0 31
30		5 10	6 49	8 49	25 10	0 50	9 5	0 13
31		5 12	6 47	8 27	21 58	1 47	10 43	castr. 5
Day	Day	Length decreas. of Day.	Helio. Plac.	Helio. Plac.	Helio. Plac.	Helio. Plac.	Helio. Plac.	Saturn Plac.
1	1	14 15 20	18 26	28 15	2 45	19 28	17 46	0M 11
7	1	31 15 31	18 37	29 20	6 29	15 13	29 12	6 55
13	1	51 14 43	18 48	29 48	10 14	20 58	8 54	28 31
19	2	13 14 21	18 59	0 16	14 0	26 45	18 35	24 10
25	2	35 13 59	19 9	0 41	17 47	2 33	28 14	25 9

August, 1781.

23

Days	Day lig. begins	Day lig. ends	Durat. Twilight	Node Din V	Lat. 1/2 North	Lat. 1/4 North	Lat. 1/8 South	Lat. 1/16 North	Lat. 1/32 South		
1	1 23	10 34	2 58	29 26	1 28	0 53	6 7	1 29	4 25		
7	1 47	10 13	2 46	29 7	1 27	0 52	6 6	1 28	4 51		
13	2 9	9 51	2 34	28 48	1 26	0 50	5 48	1 24	4 15		
19	2 29	9 31	2 25	28 29	1 24	0 49	5 34	1 18	2 44		
25	2 47	9 13	2 18	28 10	1 23	0 48	5 18	1 9	0 56		
Days	☉ d. m. s.			☽ D h	Lat. ☽ R	☽ h	☽ m	☽ R	☽ h	☽ m	☽ R
1	9	27	51	6 22	4 S. 38	13	39	18	5	15	46
2	10	25	18	19 38	4 57	13	37	18	15	37	27
3	11	22	45	2 41	5 0	13	36	18	12	15	28
4	12	20	13	15 31	4 48	13	35	18	15	15	20
G	13	17	42	28 6	4 22	13	33	18	10	15	12
6	14	15	12	10 27	3 44	13	32	18	23	15	5
7	15	12	43	22 35	2 56	13	31	18	27	14	59
8	16	10	16	4 33	2 1	13	30	18	31	14	54
9	17	7	51	16 23	1 13	13	29	18	36	14	50
10	18	5	27	28 11	0 N. 1	13	29	18	40	14	47
11	19	3	4	10 0	1 4	13	28	18	45	14	44
G	20	0	43	21 57	2 4	13	28	18	50	14	42
13	20	58	24	4 7	3 0	13	27	18	55	14	41
14	21	56	6	16 34	3 49	13	27	19	1	14	41
15	22	53	50	29 23	4 28	13	27	19	6	14	D 42
16	23	51	35	12 38	4 54	13	D 27	19	12	14	43
17	24	49	22	26 19	5 4	13	27	19	17	14	45
18	25	47	11	10 25	4 57	13	27	19	23	14	48
G	26	45	1	24 51	4 30	13	27	19	29	14	52
20	27	42	52	9 32	3 46	13	28	19	35	14	57
21	28	40	45	24 18	2 46	13	28	19	42	15	3
22	29	38	39	9 3	1 34	13	29	19	48	15	9
23	30	36	35	23 41	0 18	13	29	19	55	15	16
24	1	34	32	8 m 5	1 S. 0	13	30	20	1	15	24
25	2	32	30	22 15	2 12	13	31	20	8	15	32
G	3	30	30	6 9	3 15	13	31	20	15	15	41
27	4	28	31	19 48	4 5	13	32	20	22	15	51
28	5	26	33	3 11	4 42	13	33	20	29	16	2
29	6	24	36	16 20	5 2	13	34	20	37	16	14
30	7	22	40	29 16	5 7	13	36	20	44	16	27
31	8	20	46	11 58	4 56	13	37	20	52	16	41
Days	Jupiter fets.	Mars fets.	Venus fets.	Mercu. fets.	Dec. 1/2 South	Dec. 1/4 South	Dec. 1/8 South	Dec. 1/16 North	Dec. 1/32 North		
1	10 A 51	1 M 38	8 A 26	7 A 44	21 1	16 23	28 36	14 18	9 7		
7	10 30	1 0	8 18	rises.	21 1	16 30	28 34	11 41	9 54		
13	10 8	0 48	8 8	4 M 32	21 1	16 39	28 25	8 53	11 56		
19	9 47	0 30	7 57	3 46	21 3	16 50	28 10	5 57	14 32		
25	9 26	0 14	7 47	3 23	21 5	17 27	49 2	54 15	30		

THE LUNATIONS.

Full Moon the 2d Day, 25 Minutes after 7 at Night.

Last Quarter the 10th Day, 11 Minutes past Midnight.

New Moon the 17th Day, 59 Minutes past 11 at Night.

First Quarter the 24th Day, 35 Minutes past 3 in the Afternoon.

M D	Sundays & other remark. Days.	Sun rises.	Sun sets.	Dec. ☉ North.	Dec. ☽ South.	Moon sets.	Moon South.	Clock aft. Sun.
1	Giles.	5 14	6 45	8 5	17 38	3M 5	11A 31	0 24
2	Sun. aft. Trin.	London burnt 1666.			12 39	☽ rises.	Morn.	0 43
3		5 17	6 42	7 21	7 14	7A 17	0 14	1 2
4		5 19	6 40	6 59	1 38	7 27	0 55	1 22
5		5 21	6 38	6 37	3N 59	7 39	1 34	1 42
6		5 23	6 36	6 14	9 26	7 51	2 14	2 2
7	Enurchus.	5 25	6 34	5 52	14 33	8 2	2 54	2 22
8	Nativ. B. V. Ma.	5 27	6 32	5 29	19 10	8 17	3 37	2 42
9	Sun. aft. Trin.	5 29	6 30	5 6	23 4	8 35	4 22	3 3
10		5 31	6 28	4 44	26 2	9 8	5 11	3 23
11		5 33	6 26	4 21	27 48	9 52	6 4	3 44
12		5 35	6 24	3 58	28 11	10 52	6 59	4 5
13		5 37	6 22	3 35	27 0	Morn.	7 57	4 25
14	Holy Cross Day.	5 39	6 20	3 12	24 12	0 6	8 55	4 46
15		5 41	6 18	2 49	19 54	1 33	9 51	5 7
16	Sun. aft. Trin.	5 43	6 16	2 25	14 18	3 5	10 46	5 28
17	Lambert.	5 45	6 14	2 2	7 45	☽ sets.	11 38	5 49
18		5 47	6 12	1 39	0 41	6A 33	0A 30	6 10
19	Ember Week.	5 49	6 10	1 15	6S 27	6 47	1 22	6 31
20		5 51	6 8	0 52	13 9	7 4	2 15	6 52
21	St. Matthew.	5 53	6 6	0 29	19 2	7 24	3 10	7 12
22	K. Geo. III. cro.	5 55	6 4	0 5	23 41	7 48	4 8	7 33
23	Sun. aft. Trin.	5 57	6 2	0S 18	26 48	8 28	5 8	7 54
24		5 59	6 0	0 42	28 12	9 21	6 8	8 14
25		6 1	5 58	1 5	27 55	10 28	7 6	8 34
26	St. Cyprian M.	6 3	5 56	1 29	26 5	11 43	8 1	8 54
27		6 5	5 54	1 52	22 58	Morn.	8 52	9 14
28		6 7	5 52	2 16	18 52	1 1	9 38	9 34
29	St. Michael.	Pass. Cha. Aug. Mat. born.			14 2	2 18	10 22	9 54
30	Sun. aft. Trin.	St. Jerme.	48	3 2	8 44	3 32	11 3	10 13
Day	Day	Length of Day.	Helio. Plac. ♀	Helio. Plac. ♀	Helio. Plac. ♂	Helio. Plac. ☉	Helio. Plac. ♀	Satur sets.
1	3	13 31	19 22	1 18	22 1	9 19	9 28	7 11
7	3	25 13	19 33	1 46	26 1	15 8	19 3	14 42
13	3	49 12	19 44	2 14	29 5	0 59	28 37	18 42
19	4	15 12	19 54	2 43	3 3	26 51	8 10	17 8
25	1	11 57	20 5	3 11	2 7	17 41	1 4	8 40

September, 1781.

25

Days	Day lig. begins.	Day lig. ends.	Durat. Twilig.	Node D in ♀	Lat. ♀ North.	Lat. ♀ North.	Lat. ♂ South.	Lat. ♀ North.	Lat. ♂ North.
1	3 7	8 53	2 11	27 48	1 22	0 46	4 58	0 56	0 46
7	3 24	8 36	2 6	27 29	1 20	0 45	4 40	0 43	0 35
13	3 37	8 23	2 4	27 10	1 19	0 44	4 21	0 28	1 49
19	3 32	8 8	2 1	26 51	1 18	0 43	4 3	0 12	1 38
25	4 5	7 55	2 0	26 32	1 17	0 42	3 46	0 56	2 10
Days	☉ d. m. s.	♂ d. m. s.	☿ d. m. s.	Lat. ♀	♂	♀	♂	♀	♂
1	9 18 54	24 29	4 S. 32	13 38	21	0 16	56	3 56	12 10
2	10 17 3	6 49	3 55	13 40	21	8 17	11	5 10	23 38
3	11 15 13	18 58	3 7	13 42	21	16 17	27	6 23	25 10
4	12 13 26	0 V 58	2 12	13 43	21	24 17	43	7 37	26 47
5	13 11 40	12 50	1 11	13 45	21	32 18	0	8 50	28 27
6	14 9 57	24 38	0 7	13 47	21	41 18	17	10 14	0 16
7	15 8 15	6 24	0 N 56	13 49	21	49 18	34	11 17	1 56
8	16 6 36	18 13	1 58	13 51	21	58 18	52	12 31	3 44
9	17 4 59	0 II 9	2 55	13 53	22	7 19	11	13 44	5 33
10	18 3 24	12 17	3 46	13 55	22	16 19	30	14 57	7 24
11	19 1 51	24 42	4 27	13 58	22	25 19	50	16 10	9 16
12	20 0 20	7 29	4 56	14 0	22	34 20	11	17 24	11 8
13	20 58 52	20 41	5 11	14 2	22	44 20	33	18 37	13 1
14	21 57 26	4 20	5 9	14 4	22	53 20	55	19 50	14 54
15	22 56 2	18 28	4 49	14 7	23	2 21	18	21 4	16 47
16	23 54 40	3 11	4 9	14 9	23	12 21	41	22 17	18 39
17	24 53 20	17 53	3 12	14 12	23	21 22	5 23	23 30	20 31
18	25 52 2	2 56	2 2	14 16	23	31 22	29	24 43	22 22
19	26 50 47	18 2	0 42	14 19	23	41 22	53	25 56	24 13
20	27 49 32	3 m 1	0 S. 40	14 22	23	51 23	18	27 9	26 3
21	28 48 21	17 45	1 59	14 25	24	1 23	42	28 22	27 52
22	29 47 10	2 10	3 8	14 26	24	11 24	9	29 35	29 41
23	30 46 2	16 13	4 4	14 32	24	21 24	35	0 m 48	1 29
24	1 44 55	29 54	4 44	14 36	24	31 25	2	1 3	16
25	2 43 49	13 13	5 8	14 39	24	42 25	29	3 14	5 2
26	3 42 46	26 13	5 15	14 42	24	52 25	57	4 28	6 47
27	4 41 44	8 56	5 7	14 44	25	3 26	25	5 41	8 31
28	5 40 44	21 24	4 44	14 45	25	14 26	53	6 54	10 19
29	6 39 45	3 39	4 9	14 53	25	24 27	22	8 7	11 56
30	7 38 49	15 45	3 23	14 58	25	35 27	51	9 20	13 38
Days	Jupiter sets.	Mars sets.	Venus sets.	Mercu. rises.	Dec. ♀ South.	Dec. ♀ South.	Dec. ♂ South.	Dec. ♀ South.	Dec. ♂ North.
1	9 A 2	11 A 52	7 A 34	3 M 33	21	7 17	17	27 18	0 42
7	8 43	11 42	7 23	4 3	21	7 17	31	26 48	3 48
13	8 23	11 34	7 12	4 45	21	12 17	4	16 12	6 52
19	8 4	11 26	7 1	5 28	21	18 18	2	35 31	9 51
25	7 46	11 24	6 51	sets.	21	18 18	24	46 12	12 42

The LUNATIONS.

Full Moon the 2d Day, 2 Minutes past Noon.

Last Quarter the 10th Day, 50 Minutes past 2 in the Afternoon.

New Moon the 17th Day, 10 Minutes past 9 in the Morning.

First Quarter the 24th Day, 36 Minutes past 3 in the Morning.

M D.	Sund. & other remark. Days.	Sun rises.	Sun sets.	Dec. ☉ South.	Dec. ☽ South.	Moon sets.	Moon South.	Clock aft. Sun
1	Remigius.	6 12	5 47	3 26	3 11	4 46	11 A 42	10 32
2		6 14	5 45	3 45	2 N. 29	☽ rises.	Morn.	10 51
3		6 16	5 43	4 12	8 1	6 A 5	0 22	11 9
4		6 18	5 41	4 35	13 16	6 18	1 21	11 27
5		6 20	5 39	4 59	18 3	6 32	1 44	11 45
6	Faith.	6 22	5 37	5 22	22 10	6 50	2 28	12 2
7	17 S. aft. Trin.	6 24	5 35	5 45	25 24	7 16	3 15	12 19
8		6 26	5 33	6 8	27 31	7 53	4 6	12 35
9	St. Denys.	6 28	5 31	6 30	28 19	8 48	4 59	12 51
10	Ox. & Ca. T. beg.	Old Mich. Day		6 53	27 41	9 55	5 55	13 7
11		6 32	5 27	7 16	25 31	11 14	6 50	13 22
12		6 34	5 25	7 39	21 52	Morn.	7 46	13 36
13	Tr. K. Ed. Conf.	6 36	5 23	8 1	16 54	0 41	8 39	13 50
14	18 S. aft. Trin.	6 38	5 21	8 23	10 51	2 8	9 31	14 3
15		6 40	5 19	8 46	4 3	3 38	10 22	14 16
16		6 42	5 17	9 8	3 S. 7	5 6	11 14	14 28
17	Etheldred.	6 44	5 15	9 30	10 10	☽ sets.	0 A 6	14 40
18	St. Luke.	6 46	5 13	9 52	16 39	5 A 32	1 24	15 1
19		6 47	5 12	10 13	22 1	5 56	2 15	15 11
20		6 49	5 10	10 35	25 53	6 30	3 15	15 11
21	19 S. aft. Trin.	6 51	5 8	10 56	27 58	7 18	4 21	15 20
22		6 53	5 6	11 18	28 13	8 20	5 41	15 29
23		6 55	5 4	11 39	26 47	9 34	6 21	15 36
24		6 57	5 2	12 0	23 56	10 55	6 54	15 43
25	K. Geo. III. Ina.	Crispin.	5 0	12 20	20 1	Morn.	7 42	15 50
26	K. Geo. III. Pro.	7 1	4 58	12 41	15 10	0 13	8 26	15 56
27		7 3	4 56	13 1	10 7	1 27	9 8	16 1
28	20 Sun. aft. Trin.	7 5	4 54	13 21	4 36	2 39	9 48	16 5
29	St. Simon & Jude	7 7	4 52	13 41	1 N. 1	3 49	10 27	16 8
30		7 9	4 50	14 1	6 35	4 58	11 7	16 11
31		7 11	4 48	14 20	11 36	6 8	11 47	16 13
Day	Length	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	Saturn
decreas.	of Day.	Plac. ♀	Plac. ♀	Plac. ♂	Plac. ☉	Plac. ♀	Plac. ♂	sets.
1 4 59 11 35	20 16	3 39	11 15	8 38	27 4 11	om 47	8 A 29	
7 5 23 11 11	20 26	4 7	15 3	14 33	6 34 1	18 44	8 8	
13 5 47 10 47	20 38	4 35	18 50	20 3	16 10	5 33	7 4	
19 6 9 10 25	20 49	5 4	22 36	26 28	25 39	22 3	7 29	
25 6 31 10 0	20 59	5 32	26 22	28 27	5 7	8 56	7 1	

October, 1781.

27

Days	Day lig. begins.	Day lig. ends.	Durat. Twilig.	Node D in V	Lat. h North.	Lat. 2 North.	Lat. ♂ South.	Lat. ♀ South.	Lat. ♀ North.
1	4 18	7 42	I 59	26 13	I 16	0 41	3 29	0 24	0 34
7	4 31	7 29	I 58	25 54	I 15	0 40	3 12	0 42	0 8. 7
13	4 43	7 17	I 57	25 34	I 14	0 39	2 56	1 0	0 49
19	4 55	7 5	I 57	25 15	I 13	0 38	2 40	1 18	1 28
25	5 6	6 54	I 58	24 56	I 12	0 37	2 26	1 35	2 3

Days	☉ d. m. s.	☿ D. X	Lat. D	h	♂	♀	♂	♀	♂	♀
1	8 37 54	27 43	2 S 28	15	2 25	46 28	20 19	3 15	18	
2	9 37 2	9 V 36	I 27	15	6 25	57 28	50 11	48 16	58	
3	10 36 11	21 24	0 22	15	11 26	8 29	20 12	59 18	37	
4	11 35 22	3 8 11	0 N 43	15	15 26	19 29	50 14	12 20	15	
5	12 34 36	14 59	I 46	15	19 26	30 0	21 15	25 21	53	
6	13 33 52	26 51	2 46	15	24 26	42 0	52 16	37 23	30	
G	14 33 10	28 II 50	3 49	15	28 26	53 1	24 17	59 25	6	
8	15 32 31	20 59	4 22	15	33 27	4 1	56 19	3 26	41	
9	16 31 54	3 26 24	4 55	15	38 27	16 2	28 20	16 28	15	
10	17 31 20	16 7	5 14	15	42 27	27 3	0 21	28 29	49	

11	18 30 48	29 12	5 17	15	47 27	39 3	32 22	41 11	22	
12	19 30 18	12 Q 43	5 4	15	52 27	51 4	5 23	54 2	55	
13	20 29 51	26 41	4 32	15	57 28	3 4	38 25	6 4	27	
G	21 29 26	11 W 5	3 43	16	2 28	15 5	11 26	19 5	58	
15	22 29 3	25 53	2 37	16	7 28	27 5	44 27	32 7	29	
16	23 28 43	10 57	I 20	16	12 28	39 6	18 28	44 8	59	
17	24 28 24	26 10	0 S. 4	16	18 28	51 6	52 29	57 10	28	
18	25 28 8	11 m 21	I 27	16	23 29	3 7	26 1	10 11	56	
19	26 27 54	26 22	2 44	16	28 29	16 8	1 2	22 13	24	
20	27 27 41	11 4	3 48	16	34 29	28 8	36 3	3 14	51	
G	28 27 31	25 22	4 35	16	39 29	41 9	11 4	47 16	18	
22	29 27 22	9 13	5 5	16	45 29	53 9	46 6	0 17	44	
23	m 27 15	22 38	5 18	16	50 0	6 10	22 7	12 19	9	
24	I 27 9	5 38	5 13	16	56 0	18 10	58 8	24 20	33	
25	2 27 5	18 16	4 53	17	I 0	31 11	34 9	36 21	57	
26	3 27 3	0 X 37	4 20	17	7 0	44 12	10 10	48 23	20	
27	4 27 3	12 44	3 36	17	13 0	57 12	46 12	0 24	42	
G	5 27 2	24 42	2 43	17	19 1	5 13	22 13	13 26	3	
29	6 27 4	6 V 33	I 44	17	24 1	22 13	58 14	25 27	23	
30	7 27 8	18 21	0 40	17	30 1	35 14	35 15	37 28	42	
31	8 27 15	0 8 8	0 N. 26	17	36 1	48 15	12 16	47 29	59	

Days	Jupiter fets.	Mars fets.	Venus fets.	Mercu. fets.	Dec. h South.	Dec. 2 South.	Dec. ♂ South.	Dec. ♀ South.	Dec. ♀ South.
1	7 A 26	11 A 22	6 A 43	6 A 2	21 23	18 33	23 5	15 23	5 31
7	7 7	11 20	6 36	5 53	21 26	18 50	22 59	17 50	9 50
13	6 48	11 18	6 29	5 44	21 30	19 7	21 58	20 2	13 47
19	6 30	11 16	6 25	5 37	21 34	19 24	20 52	21 56	17 17
25	6 10	11 15	6 22	5 27	21 38	19 40	19 40	23 29	20 15

THE LUNATIONS.

Full Moon the 1st Day, 30 Minutes past 6 in the Morning.
 Last Quarter the 9th Day, 20 Minutes past 3 in the Morning.
 New Moon the 15th Day, 13 Minutes past 7 at Night.
 First Quarter the 22d Day, 33 Minutes past 7 at Night.

M D.	Sundays & other remark. Days.	Sun rises.	Sun sets.	Dec. ☉ South.	Dec. ☽ North.	Moon rises.	Moon South.	Clock aft. Sun	
1	All Saints.	7 12	4 47	14 40	16 52	D rises.	Morn.	16 14	
2	Pr. Edw. born.	All Soul	4 45	14 50	21 11	5 A 1	0 30	16 15	
3	Prs. Sophia bo.	7 16	4 43	15 17	24 41	5 24	1 16	16 14	
4	21 Sun. aft. Trin.	7 18	4 41	15 36	27 6	5 57	2 6	16 13	
5	Pap. & Conspir.	7 20	4 39	15 54	28 14	6 44	2 58	16 11	
6	Term begins.	Leonard	4 38	16 12	27 58	7 46	3 52	16 8	
7	D. Cumb. born.	7 23	4 36	16 30	26 14	9 1	4 46	16 4	
8	Prs. Aug. Sop. b.	7 24	4 35	16 47	23 4	10 21	5 40	15 59	
9	Ld. Mayor's Day	7 26	4 33	17 4	18 38	11 46	6 32	15 54	
10	at London.	7 28	4 31	17 21	13 8	Morn.	7 23	15 47	
11	22 Sun. aft. Trin.	S. Martin B. & C.	4 29	17 38	6 49	1 11	8 12	15 40	
12		7 31	4 29	17 54	0 1	2 39	9 1	15 32	
13	Britius B.	7 32	4 27	18 10	7 S. 0	4 6	9 51	15 23	
14		7 34	4 25	18 26	13 42	5 35	10 43	15 13	
15	Machutus.	7 36	4 23	18 41	19 38	D sets.	11 40	15 2	
16		7 37	4 22	18 56	24 17	4 A 22	0 A 40	14 50	
17	Hugh Bp. Linc.	7 38	4 21	19 11	27 14	5 3	1 44	14 38	
18	23 Sun. aft. Trin.	7 40	4 19	19 25	28 16	6 2	2 47	14 25	
19		7 42	4 18	19 39	27 25	7 14	3 47	14 11	
20	Edm. K & Mart.	7 44	4 16	19 52	24 57	8 34	4 44	13 56	
21		7 45	4 15	20 6	21 15	9 55	5 34	13 40	
22	Old Mart. Day.	7 46	4 14	20 18	16 40	11 13	6 20	13 24	
23	St. Clement.	7 48	4 12	20 31	11 30	Morn.	7 3	13 6	
24		7 49	4 11	20 43	6 2	0 25	7 43	12 49	
25	24 S. aft. Trin.	D. Glouc. born	4 10	20 55	0 25	1 35	8 22	12 30	
26		7 51	4 9	21 6	5 N. 9	2 44	9 1	12 10	
27		7 52	4 8	21 17	10 34	3 55	9 41	11 50	
28	Term ends.	7 53	4 7	21 27	15 37	5 5	10 23	11 30	
29		7 54	4 6	21 38	20 7	6 18	11 8	11 8	
30	St. Andrew.	7 56	4 4	21 47	23 50	7 32	11 56	10 46	
Days	Day decreas.	Length of Day.	Helioc. Plac. ♀	Helioc. Plac. ♀	Helioc. Plac. ♂	Helioc. Plac. ☉	Helioc. Plac. ♀	Helioc. Plac. ♀	Saturn sets.
1	6 59	9 35	21 ♀ 12	6 ♀ 6	0 44	9 27	16 11	0 17	6 A 42
7	7 21	9 15	21 ♀ 23	6 ♀ 35	4 27	15 20	25 41	21 2	6 20
12	7 39	8 55	21 ♀ 34	7 ♀ 3	8 9	21 32	5 11	15 18	5 58
13	7 58	8 36	21 ♀ 45	7 ♀ 31	11 49	27 35	14 42	14 23	5 36
19	8 14	8 20	21 ♀ 55	7 ♀ 59	15 28	31 40	24 14	18 42	5 12

Days	Day lig. begins.	Day lig. ends.	Durat. Twilig.	Node D in ♀	Lat. ♀ North.	Lat. ♀ North.	Lat. ♂ South.	Lat. ♀ South.	Lat. ♀ South.
1	5 17	6 43	1 59	24 34	1 11	0 37	2 9	1 51	2 33
7	5 25	6 35	2 2	24 15	1 10	0 36	1 56	2 5	2 43
13	5 34	6 26	2 3	23 56	1 10	0 35	1 44	2 15	2 29
19	5 41	6 19	2 5	23 37	1 9	0 35	1 31	2 22	1 35
25	5 48	6 12	2 7	23 18	1 8	0 34	1 20	2 26	0 N. 10
Days	☉ d. m. s.	♂ D 8	Lat. D	♀ h 4	♀ 4	♂ 4	♀ 4	♀ 4	♀ 4
1	9 27 23	11 58	1 N. 30	17 42	2 1	15 40	18 1	1 1	15
2	10 27 33	23 51	2 31	17 48	2 14	16 26	19 13	2 30	
3	11 27 44	5 11 51	3 25	17 55	2 27	17 4	20 25	3 43	
G	12 27 57	17 59	4 11	18 1	2 40	17 41	21 37	4 54	
5	13 28 13	0 56 16	4 46	18 7	2 53	18 19	22 49	6 3	
6	14 28 31	12 47	5 8	18 13	3 6	18 57	24 1	7 10	
7	15 28 51	25 33	5 16	18 19	3 19	19 35	25 13	8 14	
8	16 29 12	8 36	5 7	18 25	3 32	20 13	26 25	9 15	
9	17 29 36	21 59	4 42	18 32	3 46	20 51	27 36	10 12	
10	18 30 2	5 12 45	4 0	18 38	3 59	21 29	28 48	11 6	
G	19 30 30	19 53	3 3	18 45	4 12	22 8	29 59	11 56	
12	20 31 0	4 23	1 53	18 51	4 25	22 46	1 10	12 40	
13	21 31 32	19 11	0 34	18 58	4 38	23 25	2 22	13 20	
14	22 32 5	4 11 13	0 S. 49	19 5	4 51	24 4	3 33	13 54	
15	23 32 40	19 19	2 8	19 11	5 5	24 43	4 44	14 21	
16	24 33 17	4 22	3 18	19 18	5 18	25 22	5 56	14 40	
17	25 33 56	19 11	4 14	19 25	5 31	26 1	7 7	14 50	
G	26 34 36	3 39	4 51	19 31	5 45	26 40	8 18	14 52	
19	27 35 17	17 41	5 10	19 38	5 58	27 19	9 29	14 46	
20	28 35 59	1 15	5 11	19 45	6 11	27 59	10 40	14 48	
21	29 36 43	14 21	4 55	19 51	6 25	28 38	11 51	14 0	
22	30 37 27	27 3	4 25	19 58	6 38	29 18	13 2	13 20	
23	1 38 12	9 24	3 44	20 5	6 52	29 57	14 13	12 30	
24	2 38 59	21 28	2 53	20 12	7 5	0 37	15 23	11 32	
G	3 39 47	3 22	1 55	20 19	7 19	1 17	16 34	10 24	
26	4 40 35	15 11	0 53	20 25	7 32	1 57	17 45	9 10	
27	5 41 24	26 57	0 N. 11	20 32	7 46	2 37	18 55	7 50	
28	6 42 14	8 46	1 14	20 39	7 59	3 17	20 5	6 25	
29	7 43 6	20 41	2 15	20 46	8 13	3 57	21 15	5 3	
30	8 43 58	2 11 44	3 10	20 53	8 27	4 37	22 25	3 44	
Days	Jupiter sets.	Mars sets.	Venus sets.	Mercu. sets.	Dec. ♀ South.	Dec. ♀ South.	Dec. ♂ South.	Dec. ♀ South.	Dec. ♀ South.
1	5 A 46	11 A 15	6 A 20	5 A 21	21 43	20 0	18 10	24 46	22 56
7	5 26	11 14	6 24	5 17	21 47	20 16	16 49	25 28	24 23
13	5 6	11 13	6 31	5 11	21 51	20 31	15 22	25 42	24 53
19	4 46	11 12	6 40	4 59	21 55	20 46	13 52	25 30	24 10
25	4 25	11 11	6 49	4 30	21 59	21 0	12 16	24 51	21 53

The LUNATIONS.

Full Moon the 1st Day, 5 Minutes before 1 in the Morning.
 Last Quarter the 8th Day, 50 Minutes past 1 in the Afternoon.
 New Moon the 15th Day, 15 Minutes past 6 in the Morning.
 First Quarter the 22d Day, 4 Minutes past 3 in the Afternoon.
 Full Moon the 30th Day, 55 Minutes past 5 at Night.

M D.	Sundays & other remark. Days.	Sun rises.	Sun sets.	Dec. ☉ South.	Dec. ☽ North.	Moon rises.	Moon South.	Clock aft. Sun	
1		7 57	4 3	21 56	26 32	Drises.	Morn.	10 23	
2	G Advent Sunday.	7 58	4 2	22 5	28 0	4 A 35	0 47	10 0	
3		7 59	4 1	22 14	28 3	5 32	1 41	9 36	
4		8 0	4 0	22 22	26 37	6 43	2 36	9 11	
5		8 0	4 0	22 39	23 45	8 1	3 29	8 46	
6	Nicholas.	8 1	3 59	22 36	19 38	9 24	4 21	8 20	
7		8 2	3 58	22 43	14 28	10 47	5 11	7 54	
8	Concep. B. V. M.	8 3	3 57	22 49	8 30	Morn.	5 58	7 27	
9	G 2 S. in Advent.	8 4	3 56	22 55	2 1	0 11	6 46	7 0	
10		8 5	3 56	23 0	4 S. 42	1 34	7 33	6 33	
11		8 5	3 55	23 5	11 18	3 0	8 22	6 5	
12		8 6	3 54	23 10	17 22	4 29	9 13	5 36	
13	Lucy.	8 6	3 54	23 14	22 28	6 1	10 10	5 7	
14		8 6	3 54	23 17	26 7	7 33	11 11	4 38	
15	Carab. T. ends.	8 7	3 53	23 20	27 59	Drises.	0 A 15	4 9	
16	G 3 S. in Advent.	8 7	3 53	23 23	27 54	4 A 37	1 17	3 39	
17	Oxf. Term ends.	8 7	3 53	23 25	26 1	5 56	2 17	3 9	
18		8 8	3 52	23 26	22 39	7 19	3 13	2 39	
19	Ember Week.	8 8	3 52	23 27	18 13	8 40	4 2	2 9	
20		8 8	3 52	23 28	13 6	9 57	4 46	1 39	
21	St. Thomas.	Shortest Day.		23 28	7 36	11 9	5 28	1 9	
22		8 8	3 52	23 28	1 57	Morn.	6 7	0 39	
23	G 4 S. in Advent.	8 8	3 52	23 27	3 N. 42	0 19	6 45	0 9	
24		8 8	3 52	23 26	9 10	1 27	7 24	0 21	
25	Christmas Day.	8 7	3 53	23 24	14 18	2 39	8 5	0 51	
26	St. Stephen.	8 7	3 53	23 22	18 58	3 49	8 49	1 21	
27	St. John.	8 7	3 53	23 18	22 54	5 3	9 36	1 50	
28	Holy Innocents.	8 7	3 54	23 16	25 54	6 17	10 27	2 20	
29		8 6	3 54	23 15	27 43	7 27	11 20	2 49	
30	G 1 S. aft. Chri.	8 5	3 55	23 9	28 8	Drises.	Morn.	3 18	
31	Silvester.	8 4	3 56	23 4	27 2	4 A 16	0 15	3 46	
Days	Day decreas.	Length of Day.	Helioc. Plac. ♀	Helioc. Plac. ♀	Helioc. Plac. ♂	Helioc. Plac. ☉	Helioc. Plac. ♀	Helioc. Plac. ♂	Saturn sets.
1	8 28	8 6	22 4	8 4	19 5	9 11	45 3	46 26	11 16
7	8 38	7 56	22 16	8 57	22 40	15 51	13 19	2 31	4 28
13	8 46	7 48	22 27	9 26	26 14	21 57	22 54	3 45	rises.
19	8 50	7 44	22 38	9 54	29 45	28 4	2 30	29 34	7 M 40
25	0 10.2	7 46	22 49	10 23	3 8	15 4	11 12	6 21	12 7

December, 1781.

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Days	Day lig. begins.	Day lig. ends.	Durat. Twilig.	Node D in ♀	Lat. ♀ North.	Lat. ♀ North.	Lat. ♂ South.	Lat. ♀ South.	Lat. ♀ North.
1	5 54	6 6	2 8	22 59	1 8	0 34	1 9	2 26	2 1
7	5 57	6 3	2 10	22 40	1 8	0 33	0 59	2 22	2 47
13	5 59	6 1	2 12	22 21	1 7	0 33	0 40	2 13	2 32
19	6 1	5 59	2 11	22 2	1 7	0 33	0 40	2 0	1 51
25	6 1	5 59	2 11	21 43	1 6	0 32	0 31	1 41	1 3
Days	☉ d. m. s.	☿ d. m. s.	♂ d. m. s.	♂ d. m. s.	Lat. ♂ h. m. s.	Lat. ♂ h. m. s.	Lat. ♂ h. m. s.	Lat. ♀ h. m. s.	Lat. ♀ h. m. s.
1	9 44 51	14 56	3N.57	21 0	8 40	5 18	23 34	2 31	
G	10 45 46	27 19	4 34	21 7	8 54	5 5	24 44	1 27	
3	11 46 42	9 53	4 58	21 14	9 7	6 39	25 54	0 32	
4	12 47 38	22 39	5 7	21 21	9 21	7 19	27 3	29 46	
5	13 48 36	5 37	5 1	21 28	9 34	8 0	28 13	29 12	
6	14 49 36	18 48	4 40	21 35	9 48	8 40	29 22	28 50	
7	15 50 37	2 13	4 2	21 42	10 1	9 21	30 31	28 40	
8	16 51 39	15 53	3 10	21 49	10 15	10 1	40 28	38	
G	17 52 42	29 49	2 6	21 57	10 28	10 42	2 49	28 49	
10	18 53 46	14 0	0 54	22 4	10 42	11 22	3 58	29 8	
11	19 54 51	28 26	0S.24	22 11	10 55	12 3	5 6	29 35	
12	20 55 58	13 4	1 40	22 18	11 9	12 44	6 15	0 9	
13	21 57 5	27 49	2 51	22 25	11 22	13 25	7 23	0 50	
14	22 58 13	12 35	3 50	22 32	11 35	14 6	8 31	1 37	
15	23 59 21	27 14	4 33	22 40	11 49	14 47	9 39	2 29	
G	25 0 31	11 38	4 58	22 47	12 2	15 28	10 46	3 26	
17	26 1 41	25 40	5 4	22 54	12 15	16 9	11 54	4 27	
18	27 2 51	9 27	4 52	23 1	12 29	16 50	13 1	5 32	
19	28 4 1	22 28	4 25	23 8	12 42	17 31	14 8	6 39	
20	29 5 12	5 14	3 46	23 15	12 55	18 12	15 15	7 49	
21	30 6 22	17 37	2 56	23 23	13 8	18 53	16 22	9 1	
22	1 7 33	29 44	2 0	23 30	13 22	19 34	17 28	10 15	
G	2 8 43	11 38	1 0	23 37	13 35	20 15	18 35	11 31	
24	3 9 54	23 27	0N.3	23 44	13 49	20 57	19 41	12 49	
25	4 11 4	5 14	1 5	23 51	14 2	21 38	20 47	14 8	
26	5 12 14	17 5	2 5	23 58	14 15	22 19	21 53	15 29	
27	6 13 24	29 5	3 0	24 5	14 28	23 0	22 58	16 51	
28	7 14 34	11 17	3 47	24 12	14 41	23 42	24 3	18 14	
29	8 15 44	23 42	4 24	24 19	14 54	24 23	25 8	19 38	
G	9 16 54	6 23	4 49	24 26	15 7	25 4	26 12	21 2	
31	10 18 5	19 17	5 0	24 33	15 20	25 45	27 16	22 27	
Days	Jupiter rises.	Mars sets.	Venus sets.	Mercu. rises.	Dec. ♀ South.	Dec. ♀ South.	Dec. ♂ South.	Dec. ♀ South.	Dec. ♂ South.
1	7M49	11A10	7A2	rises.	22 2	21 13	10 39	23 48	18 42
7	7 29	11 7	7 16	6M17	22 4	21 26	8 59	22 22	17 10
13	7 10	11 4	7 30	6 2	22 7	21 38	7 17	20 35	17 52
19	7 51	11 1	7 44	6 11	22 10	21 49	5 33	18 32	19 37
25	6 31	10 58	7 57	6 27	22 13	22 0	3 48	16 11	21 29



Of the ECLIPSES this YEAR, 1781.

THIS Year will produce two Eclipses, which will happen in the following Order.

The First Eclipse is of the Sun, and will happen on Monday the 23d Day of April, in the Afternoon; and will, in part, be visible, according to the following Calculation for London:

	h.	m.	s.
Begins	6	36	35

Sun sets apparently 10 Minutes past 7.

The Second Eclipse is likewise of the Sun, and will happen on Wednesday the 17th Day of October, in the Morning; and will be visible in our Island of Great-Britain, according to the following Calculation for the Latitude and Meridian of London:

	h.	m.	s.	
Beginning of the Eclipse	6	52	32	October the 17th Day, in the Morning.
Middle —	7	36	24	
End of the Eclipse —	8	19	36	
Digits eclipsed —	3 ^o	45	"	

This Eclipse will be central and total to New Holland, and Part of the Indian Ocean, and the inmost Parts of Africa

Spetulum Phænomenorum ad Annum 1781.

Days	JANUARY.	Days	MARCH.	Days	MAY.
3	♂ Elong. max. à ☉ Mat. 24° 51' rises 1h. 49m. before him.	5	♂ in ☉	1	♂ Elong. max. à ☉ Mat. 26° 31' rises 32m. before him.
9	♂ ♀ 20h.	6	♂ ♀ 16h.	—	—
14	♂ in Perigeo.	10	♂ in Perigeo.	4	♂ in Perigeo.
15	♂ in ☉.	14	♂ ♀ 18h.	7	♂ ♀ 21h.
18	♂ ♀ 19h.	15	♂ ♀ 23h.	9	♂ ♀ 16h.
18	♂ ♀ 12h.	16	♂ ♀ 18h.	12	♂ ♀ 10h.
19	☉ in ♉ 2h. 10m. apparent time.	16	♀ in Aphelio.	12	♂ ☉ 15h.
20	♂ ♀ 15h.	—	♂ Elong. max. à ☉ Vesp. 18° 25' sets 1h. 47 m. after him.	18	♂ in Apogeo.
21	♂ ♀ 15h.	19	☉ in ♉ 17h. 30m.	21	♂ ♀ 11h.
21	♂ ♀ 12h.	22	♂ ♀ 19h.	20	☉ in ♌ 6h. 55m.
22	♂ ♀ 12h.	22	♂ in ☉	22	♂ ♀ 14h.
24	♂ ☉ 10h.	24	♂ ☉ 12h.	22	♂ ☉ 20h.
25	♂ in Aphelio.	24	♂ in Apogeo.	JUNE.	
28	♂ in Apogeo.	25	♂ ♀ 17h.	1	♂ in Perigeo.
Days	FEBRUARY.	Days	APRIL.	Days	
10	♂ in Perigeo.	7	♂ in Perigeo.	2	♂ ☉ 1h.
14	♂ ♀ 22h.	10	♂ ♀ 15h.	2	♂ in ☉
15	♂ ♀ 21h.	12	♂ ♀ 18h.	4	♂ ♀ 2h.
16	♂ ♀ 15h.	13	♂ ♀ 19h.	5	♂ ♀ 23h.
17	☉ in ♌ 17h.	13	♂ in ☉	6	♂ ☉ 12h.
18	♂ ☉ 15h.	19	☉ in ☉ 6h. 18m.	6	♂ in Perihelio.
20	♂ ♀ 9h.	20	♂ in Apogeo.	8	♂ ♀ 6h.
21	♂ ☉ 18h.	21	♂ ♀ 1h.	8	♂ ♀ 19h.
23	♂ ♀ 2h.	22	♂ ♀ 6h.	14	♂ in Apogeo.
23	♂ in Apogeo.	23	♂ ☉ 5h.	20	☉ in ♉ 15h. 39m.
		23	♂ in Aphelio.	21	♂ ☉ 9h.
				21	♂ ♀ 19h.
				22	♂ ♀ 19h.
				28	♂ in Perigeo.

Speculum Phænomenorum ad Annum 1781.

Days	JULY.	Days	SEPTEMBER.	Days	NOVEMBER.
1	♂ ♀ D 5h.	2	♂ in Perihelio.	1	♂ ♀ D 18h.
3	♂ ♀ D 4h.	5	D in Apogeo.	7	♂ Elong. max. à ☉
5	♂ ♀ D 22h.	17	♂ ♀ D 5h.	—	Vesp. 22° 45' sets
9	♀ in Perihelio.	17	♂ ☉ D 12h.	—	41 min. after him.
10	♂ in ☿	17	♂ in Perihelio.	13	D in Perigeo.
12	♂ ☉ D 6h.	19	♂ ♀ D 14h.	15	♂ ☉ D 7h.
12	D in Apogeo.	19	D in Perigeo.	16	♂ ♀ D 2h.
13	♂ Elong. max. à ☉	21	♂ ♀ D 11h.	16	♂ ♀ D 17h.
—	Vesp. 26° 43' sets	22	☉ in ♌ 5h. 15m.	17	♂ ♀ D 0h.
—	1h. 6m. after him.	22	♂ ♀ D 21h.	18	♂ ♀ D 9h.
20	♂ ☉ D 19h.	23	♀ in ☿	22	♂ ♀ D 5h.
20	♂ in Aphelio.	25	♂ ♀ D 23h.	21	☉ in ♌ 9h. 10m.
21	♂ ♀ D 20h.	OCTOBER.		24	♂ in ☿
22	☉ in ♍ 2h. 30m.	D in Apogeo.		27	♂ ♀ D 1h.
22	♂ ♀ D 15h.	♂ in ☿		27	♂ ☉ D 22h.
26	D in Perigeo.	♂ ♀ D 22h.		27	D in Apogeo.
28	♂ ♀ D 11h.	♂ ☉ D 21h.		25	♂ ☉ D 15h.
30	♂ ♀ D 6h.	D in Perigeo.		27	♂ in Perihelio.
AUGUST.		♂ in Aphelio.		DECEMBER.	
♂ ♀ D 20h.		♂ ♀ D 1h.		D in Perigeo.	
D in Apogeo.		♂ ♀ D 5h.		♂ ♀ D 5h.	
♂ ♀ D 5h.		♂ ♀ D 11h.		♂ ♀ D 22h.	
♂ ☉ D 3h.		♂ ♀ D 9h.		♂ ♀ D 16h.	
♂ ♀ D 17h.		☉ in ♍ 13h. 6m.		♂ ☉ D 12h.	
☉ in ♍ 8h. 50m.		♂ ♀ D 11h.		♂ ☉ D 18h.	
D in Perigeo.		♀ in Aphelio.		♂ Elong. max. à ☉	
♂ ♀ D 12h.		D in Apogeo.		Mat. 21° 35' rises	
♂ ♀ D 13h.				1h. om. before him.	
♂ Elong. max. à ☉				♂ ♀ D 7h.	
Mat. 18° 10' rises				☉ in ♌ 21h. 30m.	
1h. 39m. before him.				♂ ♀ D 3h.	
♂ ♀ D 0h.				♂ ♀ D 22h.	
				D in Apogeo.	

A Table of the Eclipses of JUPITER'S first Satelles, reduced to correct or apparent Time, 1781.

JANUARY.	FEBRUARY.	APRIL.	JUNE.
Immerfions.	Immerfions.	Immerfions.	Emerfions.
d. h. m. s.	d. h. m. s.	d. h. m. s.	d. h. m. s.
2 17 54 32	26 14 23 52	17 3 52 50	7 13 51 20
4 12 22 3	28 8 52 35	18 22 21 45	9 8 19 44
6 6 49 35	MARCH.	20 16 50 38	11 2 48 6
8 1 17 8	Immerfions.	22 11 19 31	12 21 16 28
9 19 44 42	2 3 21 19	24 5 48 23	14 15 44 50
11 14 12 17	3 21 50 3	26 0 17 12	16 10 13 11
13 8 39 54	5 16 18 48	27 18 46 0	18 4 41 36
15 3 7 34	7 10 47 38	29 13 14 49	19 23 9 58
16 21 35 17	9 5 16 29	MAY.	21 17 38 21
18 16 3 3	10 23 45 20	Immerfions.	23 12 5 44
20 10 30 49	12 18 14 11	1 7 43 37	25 6 35 8
22 4 58 38	14 12 43 2	3 2 12 21	27 1 3 32
23 23 26 30	16 7 11 54	4 20 41 6	28 19 31 56
25 17 54 24	18 1 40 49	6 15 9 50	30 14 0 24
27 12 22 22	19 20 9 44	8 9 38 32	JULY.
29 6 50 20	21 14 38 40	10 4 7 12	Emerfions.
31 1 18 22	23 9 7 36	11 22 35 51	2 8 28 50
FEBRUARY.	25 3 36 31	Emerfions.	4 2 57 18
Immerfions.	26 22 5 27	13 19 12 18	5 21 25 50
1 19 46 24	28 16 34 23	15 13 40 54	7 15 54 19
3 14 14 30	30 11 3 20	17 8 9 30	9 10 22 50
5 8 42 42	APRIL.	19 2 38 4	11 4 51 22
7 3 10 54	Immerfions.	20 21 6 37	12 23 19 58
8 21 39 7	1 5 32 19	22 15 35 11	14 17 48 34
10 16 7 24	3 0 1 18	24 10 3 45	16 12 17 13
12 10 35 45	4 18 30 16	26 4 32 16	18 6 45 51
14 5 4 8	6 12 59 15	27 23 0 45	20 1 14 31
15 23 32 32	8 7 28 12	29 17 29 13	21 19 43 13
17 18 1 0	10 1 57 8	31 11 57 41	23 14 11 57
19 12 29 31	11 20 26 5	JUNE.	25 8 40 41
21 6 58 3	13 14 55 2	Emerfions.	27 0 9 30
23 1 26 36	15 9 23 56	2 6 26 6	28 21 38 19
24 19 55 12		4 0 54 30	30 16 7 14
		5 19 22 55	

A Table of the Eclipses of JUPITER's first Satelles, reduced to correct or apparent Time, 1781.

AUGUST.				AUGUST.				SEPTEMBER.				OCTOBER.			
Emerfions.				Emerfions.				Emerfions.				Emerfions.			
d.	h.	m.	s.	d.	h.	m.	s.	d.	h.	m.	s.	d.	h.	m.	s.
1	12	36	8	26	5	23	46	16	11	15	37	7	17	6	48
3	5	5	3	27	23	52	59	18	5	44	56	9	11	35	56
4	23	34	4	29	18	22	16	20	0	14	15	11	6	5	1
6	18	3	8	31	12	51	34	21	18	43	34	13	0	34	5
8	12	32	7	SEPTEMBER.				23	13	12	52	14	19	3	6
10	7	1	13	Emerfions.				25	7	42	9	16	13	32	5
12	1	30	18	2	7	20	53	27	2	11	26	18	8	1	2
13	19	59	22	4	1	50	16	28	20	40	44	20	2	29	57
15	14	28	30	5	20	19	34	30	15	10	0	21	20	58	50
17	8	57	38	7	14	48	57	OCTOBER.				23	15	27	40
19	3	26	49	9	9	18	16	Emerfions.				25	9	56	28
20	21	56	2	11	3	47	37	2	9	39	18	17	4	25	13
22	16	25	14	12	22	16	57	4	4	8	29	24 near ☉			
24	10	54	28	14	16	46	18	5	22	37	40				

The Times of the Eclipses contained in this Table, are adapted to the Meridian of the ROYAL OBSERVATORY near LONDON, and afford an excellent Method to discover the Longitude or Difference of Meridians, between that and any other Place whatsoever; which I shall illustrate by an EXAMPLE:

Suppose on the 25th Day of October this Year, the Time of the Emerfion of Jupiter's first Satelles be observed (by a Telescope) in an unknown Meridian, to happen at 11 h. 20 min. 40 sec. at night; I find by the Table, that the Time of this Emerfion will happen at the British Observatory, at 9 h. 56 min. 28 sec. the same Night: The Difference of the Times is 1 hour 24 min. 12 sec. which being converted into Degrees and Minutes of the Equator, will make 21 deg. 3 min. the Longitude of the Place of Observation to the East; because the Time is more than that at the British Observatory.

A Table

A TABLE of the Times of High-Water at LONDON-BRIDGE, in the Morning and Afternoon of every Day in the Year 1781.

Mo. Days	JANUARY.				Mo. Days	FEBRUARY.				Mo. Days	MARCH.				Mo. Days	APRIL.			
	Morn.		Aftern.			Morn.		Aftern.			Morn.		Aftern.			Morn.		Aftern.	
	h.	m.	h.	m.		h.	m.	h.	m.		h.	m.	h.	m.		h.	m.	h.	m.
1	6	5	6	25	1	6	32	6	55	1	5	19	5	36	G	6	41	7	12
2	6	45	7	5	2	7	21	7	48	2	6	0	6	24	2	7	47	8	22
3	7	28	7	51	3	8	20	8	53	3	6	52	7	20	3	9	0	9	38
4	8	18	8	45	G	9	30	10	7	G	7	55	8	30	4	10	15	10	52
5	9	16	9	48	5	10	45	11	23	5	9	10	9	49	5	11	27		
6	10	19	10	51	6			0	0	6	10	28	11	6	6	0	1	0	25
G	11	25	11	59	7	0	37	1	9	7	11	43			G	0	48	1	20
8		0	31		8	1	40	2	9	8	0	19	0	50	G	1	52	2	17
9	1	3	1	35	9	2	38	2	58	9	1	20	1	48	9	2	42	3	2
10	2	6	2	32	10	3	17	3	34	10	2	16	2	38	10	3	21	3	38
11	2	58	3	17	G	3	51	4	7	G	3	0	3	17	11	3	55	4	17
12	3	36	3	53	12	4	24	4	44	12	3	34	3	51	12	4	38	5	1
13	4	10	4	30	13	5	4	5	25	13	4	7	4	27	13	5	24	5	52
G	4	50	5	10	14	5	46	6	13	14	4	47	4	9	14	6	20	6	49
15	5	30	5	53	15	6	40	7	9	15	5	31	5	59	G	7	19	7	51
16	6	17	6	43	16	7	39	8	14	16	6	27	6	57	16	8	24	8	56
17	7	9	7	38	17	8	49	9	27	17	7	27	8	3	17	9	28	9	58
18	8	8	8	42	G	10	4	10	40	G	8	38	9	14	18	10	28	10	55
19	9	16	9	50	19	11	15	11	48	19	9	50	10	23	19	11	22	11	46
20	10	24	11	1	20			0	20	20	10	55	11	26	20			0	10
G	11	37			21	0	47	1	14	21	11	56			21	0	32	0	54
22	0	9	0	41	22	1	37	2	0	22	0	20	0	44	G	1	14	1	34
23	1	9	1	37	23	2	20	2	40	23	1	6	1	27	23	1	55	2	16
24	2	4	2	30	24	2	55	3	9	24	1	48	2	9	24	2	34	2	52
25	2	48	3	6	G	3	22	3	35	G	2	27	2	44	25	3	8	3	24
26	3	21	3	35	26	3	47	3	59	26	2	58	3	12	26	3	40	3	55
27	3	48	4	1	27	4	13	4	28	27	3	26	3	40	27	4	12	4	30
G	4	16	4	30	28	4	45	5	2	28	3	53	4	6	28	4	52	5	14
29	4	45	5	0						29	4	24	4	42	G	5	39	6	5
30	5	15	5	31						30	5	2	5	22	30	6	35	7	8
31	5	50	6	10						31	5	46	6	11					

This Table may serve the following Places, by adding,

	h.	m.
For Tinmouth Haven, Hartle-pool, and Amsterdam	0	30
Brest — — — — —	1	0
Scilly — — — — —	1	45
Mount's Bay — — — — —	1	55
Bridlington Pier and Humber — — — — —	2	0

A Table of the Times of High-Water at LONDON-BRIDGE, in the Morning and Afternoon of every Day in the Year 1781.

Mo. Days	MAY.				Mo. Days	JUNE.				Mo. Days	JULY.				Mo. Days	AUGUST.			
	Morn.		Aftern.			Morn.		Aftern.			Morn.		Aftern.			Morn.		Aftern.	
	h.	m.	h.	m.		h.	m.	h.	m.		h.	m.	h.	m.		h.	m.	h.	m.
1	7	37	8	10	1	9	19	9	52	G	9	44	10	19	1	11	48		
2	8	45	9	20	2	10	23	10	54	2	10	55	11	31	2	0	23	0	54
3	9	54	10	28	G	11	28			3		0	5	3	1	25	1	52	
4	11	0	11	32	4	0	1	0	31	4	0	38	1	10	4	2	18	2	38
5			0	2	5	1	1	1	31	5	1	41	2	10	G	2	58	3	14
G	0	32	1	0	6	2	1	2	28	6	2	38	2	58	6	3	29	3	42
7	1	27	1	55	7	2	54	3	14	7	3	18	3	35	7	3	55	4	9
8	2	23	2	46	8	3	34	3	52	G	3	51	4	7	8	4	22	4	37
9	3	8	3	27	9	4	10	4	31	9	4	22	4	39	9	4	53	5	8
10	3	46	4	7	G	4	52	5	11	10	4	57	5	12	10	5	24	5	43
11	4	28	4	50	11	5	30	5	52	11	5	28	5	47	11	6	2	6	25
12	5	12	5	37	12	6	14	6	37	12	6	6	6	26	G	6	48	7	14
G	6	2	6	29	13	6	59	7	22	13	6	47	7	8	13	7	40	8	12
14	6	58	7	22	14	7	44	8	9	14	7	30	7	56	14	8	45	9	22
15	7	40	8	17	15	8	34	8	59	G	8	23	8	52	15	10	0	10	36
16	8	45	9	12	16	9	25	9	52	16	9	22	9	55	16	11	12	11	48
17	9	39	10	4	G	10	20	10	47	17	10	28	11	2	17		0	0	24
18	10	30	10	55	18	11	15	11	44	18	11	36			18	0	56	1	27
19	11	20	11	45	19		0	0	13	19	0	9	0	42	G	1	56	2	24
G			0	9	20	1	40	0	7	20	1	13	1	43	20	2	45	3	5
21	0	33	0	56	21	1	36	1	5	21	2	12	2	40	21	3	22	3	38
22	1	19	1	41	22	2	30	2	54	G	3	0	3	20	22	3	54	4	9
23	2	5	2	29	23	3	14	3	33	23	3	37	3	54	23	4	28	4	48
24	2	49	3	8	G	3	51	4	8	24	4	12	4	30	24	5	9	5	30
25	3	27	3	45	25	4	29	4	50	25	4	48	5	6	25	5	56	6	23
26	4	4	4	22	26	5	10	5	30	26	5	27	5	47	G	6	52	7	22
G	4	44	5	6	27	5	53	6	16	27	6	12	6	37	27	7	58	8	35
28	5	29	5	53	28	6	41	7	7	28	7	5	7	33	28	9	15	9	55
29	6	20	6	48	29	7	35	8	4	G	8	7	8	31	29	10	31	11	6
30	7	16	7	44	30	8	37	9	10	30	9	20	9	58	30	11	39		
31	8	15	8	47						31	10	35	11	12	31	0	12	0	39

	Adding,					h.	m.
For Fowey, Loo and Plymouth	—	—	—	—	—	3	10
Dartmouth, Harborough and Hull	—	—	—	—	—	3	30
Torbay and Tinnmouth	—	—	—	—	—	3	40
Exmouth, Topsham and Lime	—	—	—	—	—	3	50
Weymouth	—	—	—	—	—	4	20
Bridgewater and Texel	—	—	—	—	—	4	40
Portland and Hartflew	—	—	—	—	—	5	50

A Table of the Times of High-Water at LONDON-BRIDGE,
in the Morning and Afternoon of every Day in the Year
1781.

Mo. Days	SEPTEMBER.				Mo. Days	OCTOBER.				Mo. Days	NOVEMBER.				Mo. Days	DECEMBER.			
	Morn.		Aftern.			Morn.		Aftern.			Morn.		Aftern.			Morn.		Aftern.	
	h.	m.	h.	m.		h.	m.	h.	m.		h.	m.	h.	m.		h.	m.	h.	m.
1	1	6	1	31	1	1	27	1	47	1	2	12	2	31	1	2	21	2	42
G	1	55	2	17	2	2	7	2	26	2	2	50	3	6	G	3	2	3	20
3	2	38	2	53	3	2	44	2	5	3	3	21	3	37	3	3	37	3	54
4	3	7	3	20	4	3	12	3	26	G	3	52	4	10	4	4	11	4	28
5	3	32	3	44	5	3	39	3	53	5	4	28	4	49	5	4	52	5	13
6	3	57	4	11	6	4	6	4	24	6	5	10	5	33	6	5	34	5	58
7	4	25	4	42	G	4	42	5	1	7	5	57	6	25	7	6	23	6	48
8	4	59	5	17	8	5	20	5	45	8	6	53	7	23	8	7	13	7	41
G	5	35	5	59	9	6	10	6	40	9	7	53	8	26	G	8	10	8	40
10	6	23	6	51	10	7	10	7	42	10	8	58	9	31	10	9	11	9	44
11	7	19	7	53	11	8	15	8	52	G	10	4	10	36	11	10	17	10	50
12	8	27	9	6	12	9	29	10	4	12	11	7	11	39	12	11	23	11	57
13	9	45	10	22	13	10	39	11	13	13		0	10	13			0		31
14	10	59	11	35	14	11	46			14	0	38	1	6	14	1	3	1	35
15		0	10	10	15	0	15	0	44	15	1	36	2	5	15	2	7	2	38
16	0	40	1	9	16	1	11	1	38	16	2	31	2	57	G	3	0	3	22
G	1	36	2	3	17	2	5	2	31	17	3	17	3	37	17	4	41	3	59
18	2	27	2	50	18	2	52	3	12	G	3	59	4	20	18	4	20	4	40
19	3	8	3	25	19	3	31	3	49	19	4	43	5	6	19	4	59	5	17
20	3	42	3	58	20	4	10	4	31	20	5	31	5	55	20	5	37	5	57
21	4	18	4	38	G	4	54	5	18	21	6	21	6	47	21	6	19	6	41
22	5	0	5	22	22	5	46	6	15	22	7	12	7	38	22	7	1	7	22
G	5	51	6	20	23	6	46	7	17	23	8	5	8	32	G	7	45	8	9
24	6	52	7	24	24	7	49	8	21	24	8	59	9	25	24	8	34	9	0
25	8	0	8	36	25	8	53	9	24	G	9	51	10	17	25	9	28	9	56
26	9	13	9	50	26	9	53	10	22	26	10	42	11	7	26	10	24	10	52
27	10	23	10	56	27	10	49	11	16	27	11	33	11	58	27	11	22	11	52
28	11	26	11	58	G	11	42			28		0	22	28			0		21
29		0	12	20	29	0	7	0	29	29	0	45	1	9	29	0	50	1	17
G	0	44	1	6	30	0	50	1	11	30	1	32	2	57	G	1	44	2	11
					31	1	31	1	52						31	2	38	3	6

Subtract.

h. m.

For Leigh, Maes, and Gouries Gut	—	—	—	—	0	5
Gravefend Rochester, and Rammekins	—	—	—	—	1	20
Buoy of the Nore and Flushing	—	—	—	—	1	30
Portsmouth, Ostend, Shoe-Becon, and Red-Sand	—	—	—	—	2	0
Harwich, Dover, Spithead, and Calais	—	—	—	—	3	0
Gunfleet, Hastings, Shoreham, Orfordness, and Diep	—	—	—	—	4	0
Yarmouth Pier and Needle	—	—	—	—	4	40
St. Helen's and Havre-de-Grace	—	—	—	—	5	30

A Table of the Sun's semi-diurnal Arches, or Times of his visible half Tarriance above the Horizon.

The SUN's Declination North.

Degr.	Lat. 49		Lat. 50		Lat. 51		Lat. 52		Lat. 53		Lat. 54	
	h.	m.	h.	m.	h.	m.	h.	m.	h.	m.	h.	m.
0	6	4	6	4	6	4	6	4	6	4	6	4
1	6	8	6	8	6	8	6	9	6	9	6	9
2	6	12	6	13	6	13	6	14	6	14	6	15
3	6	17	6	18	6	18	6	19	6	19	6	20
4	6	22	6	22	6	22	6	24	6	25	6	25
5	6	26	6	27	6	27	6	29	6	30	6	31
6	6	31	6	32	6	33	6	34	6	36	6	37
7	6	36	6	37	6	38	6	40	6	41	6	43
8	6	41	6	42	6	43	6	45	6	47	6	48
9	6	45	6	47	6	48	6	50	6	52	6	54
10	6	50	6	52	6	54	6	56	6	58	7	0
11	6	55	6	57	6	59	7	1	7	3	7	6
12	7	0	7	2	7	4	7	7	7	9	7	12
13	7	5	7	7	7	10	7	12	7	15	7	18
14	7	10	7	13	7	15	7	18	7	21	7	24
15	7	15	7	18	7	21	7	24	7	27	7	31
16	7	21	7	24	7	27	7	30	7	33	7	37
17	7	26	7	29	7	33	7	36	7	40	7	44
18	7	31	7	35	7	38	7	42	7	46	7	51
19	7	37	7	41	7	45	7	49	7	53	7	58
20	7	43	7	47	7	51	7	55	8	0	8	5
21	7	49	7	53	7	57	8	2	8	7	8	12
22	7	55	7	59	8	4	8	9	8	14	8	20
23	8	1	8	6	8	11	8	16	8	22	8	28
24	8	7	8	12	8	18	8	24	8	30	8	36

By these Tables the Times of the Sun's Rising and Setting may be found, in any Part of the Kingdom of *Great-Britain* or *Ireland*, after the following Manner: Where the Latitude of the Place is known, take the Sun's Declination out of the Table, on the Noon of the Day you desire to know the Time of his Rising and Setting; and with it, according as it is either North or South, enter these Tables in the Left-

A Table of the Sun's semi-diurnal Arches, or Times of his visible half Tarriance above the Horizon.

The Sun's Declination South.

Degr.	Lat. 49		Lat. 50		Lat. 51		Lat. 52		Lat. 53		Lat. 54	
	h.	m.	h.	m.	h.	m.	h.	m.	h.	m.	h.	m.
0	6	4	6	4	6	4	6	4	6	4	6	4
1	5	59	5	59	5	58	5	58	5	58	5	58
2	5	54	5	54	5	53	5	53	5	53	5	53
3	5	49	5	49	5	49	5	48	5	48	5	47
4	5	45	5	44	5	44	5	43	5	42	5	42
5	5	40	5	39	5	39	5	38	5	37	5	36
6	5	35	5	35	5	34	5	33	5	31	5	30
7	5	31	5	30	5	29	5	27	5	26	5	25
8	5	26	5	25	5	23	5	22	5	21	5	19
9	5	21	5	20	5	18	5	17	5	16	5	13
10	5	17	5	15	5	13	5	11	5	10	5	8
11	5	12	5	10	5	8	5	6	5	4	5	2
12	5	7	5	5	5	3	5	0	4	58	4	56
13	5	2	5	0	4	57	4	55	4	52	4	50
14	4	57	4	54	4	52	4	49	4	47	4	44
15	4	52	4	49	4	46	4	44	4	41	4	37
16	4	46	4	45	4	41	4	38	4	34	4	31
17	4	41	4	38	4	35	4	32	4	28	4	23
18	4	36	4	33	4	29	4	26	4	22	4	18
19	4	30	4	27	4	23	4	19	4	15	4	11
20	4	25	4	21	4	17	4	13	4	9	4	4
21	4	19	4	15	4	11	4	6	4	2	3	57
22	4	13	4	9	4	4	4	0	3	55	3	50
23	4	7	4	2	3	58	3	53	3	47	3	42
24	4	1	3	56	3	51	3	46	3	40	3	34

Left-hand Column, under the Word Degrees; then look the Latitude of the Place in the Top of the Table; and in that Column, against the Sun's Declination, will be found the Time of his visible half Tarriance above the Horizon, or Time of his Setting, correct by Refraction; then subtract the Time of his Setting from 12 Hours, the Remainder will be the Time of his Rising; double the Time of his Setting, the

A Table of the Sun's semi-diurnal Arches, or Times of his visible half Tarriance above the Horizon.

The Sun's Declination North.

Degr.	Lat. 55		Lat. 56		Lat. 57		Lat. 58		Lat. 59		Lat. 60	
	h.	m.	h.	m.	h.	m.	h.	m.	h.	m.	h.	m.
0	6	4	6	4	6	4	6	4	6	4	6	4
1	6	9	6	10	6	10	6	10	6	11	6	11
2	6	15	6	16	6	16	6	17	6	17	6	18
3	6	21	6	22	6	22	6	23	6	24	6	25
4	6	27	6	28	6	29	6	30	6	31	6	32
5	6	32	6	34	6	35	6	36	6	38	6	39
6	6	38	6	40	6	41	6	43	6	44	6	46
7	6	44	6	46	6	48	6	49	6	51	6	53
8	6	50	6	52	6	54	6	56	6	58	7	1
9	6	56	6	58	7	1	7	3	7	5	7	8
10	7	2	7	5	7	7	7	10	7	13	7	16
11	7	8	7	10	7	14	7	17	7	20	7	23
12	7	15	7	18	7	21	7	34	7	27	7	31
13	7	21	7	24	7	28	7	31	7	35	7	39
14	7	28	7	31	7	35	7	39	7	43	7	47
15	7	34	7	39	7	42	7	46	7	51	7	56
16	7	41	7	45	7	49	7	54	7	59	8	4
17	7	48	7	52	7	57	8	1	8	7	8	13
18	7	55	8	0	8	5	8	10	8	16	8	22
19	8	2	8	7	8	13	8	19	8	25	8	32
20	8	10	8	15	8	21	8	28	8	35	8	42
21	8	18	8	24	8	30	8	37	8	45	8	53
22	8	26	8	32	8	39	8	47	8	55	9	4
23	8	34	8	41	8	49	8	57	9	6	9	16
24	8	43	8	51	8	59	9	8	9	18	9	29

the Sum will be the Length of the Day; and double the Time of his Rising, the Sum will be the Length of the Night. But if the Latitude of the Place, and Declination of the Sun, consist of Degrees and Minutes, then a small Allowance must be made for the Minutes in both Cases, which may be done by a Person of an ordinary Capacity by a mental Proportion only. Thus, to find the Time of the Sun's Rising and Setting at

A Table of the Sun's semi-diurnal Arches, or Times of his
vifible half Tarriance above the Horizon.

The Sun's Declination South,

Degr.	Lat. 55		Lat. 56		Lat. 57		Lat. 58		Lat. 59		Lat. 60	
	h.	m.	h.	m.	h.	m.	h.	m.	h.	m.	h.	m.
0	6	4	6	4	6	4	6	4	6	4	6	4
1	5	58	5	58	5	58	5	58	5	57	5	57
2	5	52	5	52	5	52	5	51	5	51	5	50
3	5	47	5	46	5	45	5	45	5	44	5	43
4	5	41	5	40	5	39	5	38	5	37	5	36
5	5	35	5	34	5	33	5	32	5	31	5	29
6	5	29	5	28	5	27	5	25	5	24	5	22
7	5	23	5	22	5	20	5	19	5	17	5	15
8	5	17	5	16	5	14	5	12	5	10	5	8
9	5	12	5	10	5	8	5	5	5	3	5	2
10	5	5	5	3	5	1	4	59	4	56	4	53
11	4	59	4	57	4	54	4	52	4	49	4	46
12	4	53	4	51	4	48	4	45	4	42	4	38
13	4	47	4	44	4	41	4	38	4	34	4	30
14	4	41	4	37	4	34	4	30	4	27	4	23
15	4	34	4	31	4	27	4	23	4	19	4	14
16	4	27	4	24	4	20	4	15	4	11	4	6
17	4	21	4	17	4	12	4	8	4	3	3	57
18	4	14	4	9	4	5	4	0	3	54	3	48
19	4	7	4	2	3	56	3	51	3	45	3	39
20	3	59	3	54	3	49	3	43	3	36	3	29
21	3	52	3	46	3	40	3	34	3	27	3	19
22	3	44	3	38	3	31	3	24	3	17	3	9
23	3	36	3	29	3	23	3	15	3	6	2	57
24	3	27	3	20	3	13	3	5	2	55	2	45

at Aberdeen in Scotland, on the Longest Day, the Latitude of that Place is accounted 57 Degr. 7 Min. North, and the Sun's Declination 23 Deg. 28 Min. likewise North. By these you will find by the Table, that 5 Min. for the Sun's Declination, and 1 Min. for the Latitude of the Place, are both, to be added to 8 Hours 49 Min. the Time belonging to 57 Degr. of Latitude and 23 Degr. of North Declination, and the Sum will be 8 Hours 55 Min. the Time of his apparent Setting at Aberdeen, on the longest Day, whose Complement to 12 Hours, viz. 3 Hours 5 Min. will be the Time of his Rising, &c.

A TABLE of the right Ascensions in Time, Semidurnal Arches, Declinations, and Magnitudes of 30 remarkable fixed Stars, with their Names, and BAYER's Literal References, as they stand in Mr. FLAMSTEED's Catalogue. Exactly rectified to the Beginning of the Year 1772.

The NAMES of STARS.	Bay Ch.	R. Ascen.	Semidur. Arches.	Declination.	Magn.
		h. m. s.	h. m. s.	d. m. s.	
The Southern Star, in Andromeda's Girdle, Mirach. }	β	0 57 27	10 7 20	34 27 0 N	2
The bright one in her left Foot, Alamack. }	γ	1 50 28	sets not.	41 15 56 N	2 3
The unformed Star above the Ram's Head. }	α	1 54 48	8 9 38	22 24 58 N	2
In the Head of Medusa, Algol. }	β	2 53 55	sets not.	40 5 28 N	2 3
In Perseus's right Side, Alganib. }	α	3 8 44	sets not.	49 3 41 N	2 3
The Middle and brightest of the 7 Stars. }	η	3 34 26	8 16 45	23 24 38 N	3
The Bull's South Eye, Aldebaran. }	α	4 23 19	7 28 54	16 3 13 N	1
In the left Shoulder of Auriga, Capella. }	α	5 0 28	sets not.	45 45 18 N	1
The left Foot of Orion, Rigel. }	β	5 3 59	5 20 34	8 28 7 S	1
The middle Star in his Girdle. }	ϵ	5 25 4	5 56 50	1 21 26 S	2
In his right Shoulder, Betelgeuse. }	α	5 43 17	6 41 4	7 21 11 N	1
In the great Dog's Mouth, Sirius. }	α	6 35 29	4 37 16	16 25 5 S	1
In the Head of the 1st Twin, Castor and Pollux. }	α	7 20 32	9 38 36	32 21 12 N	1
In the lesser Dog's Thigh, Procyon. }	α	7 27 48	6 33 6	5 47 1 N	1 2
In the Head of the 2d Twin, Pollux or Hercules. }	β	7 31 51	8 58 30	28 32 32 N	2
Hydra's Heart, Alphard. }	α	9 16 48	5 24 33	7 42 45 S	2
The Lion's Heart, Regulus. }	α	9 56 39	7 11 34	13 2 10 N	1
In the Extremity of his Tail, Deneb. }	β	11 37 51	7 27 24	15 48 10 N	1 2
In the Virgin's right Wing, Vindemiatrix. }	ϵ	12 51 16	7 6 41	12 8 21 N	3
In her left Hand, Arista. }	α	13 13 38	5 12 32	10 0 22 S	1
Between the Thighs of Bootes, Arcturus. }	α	14 5 41	7 55 51	20 22 56 N	1
In the Southern Scale of Libra. }	α	14 38 44	4 44 32	15 6 54 S	2
In the Northern Scale of Libra. }	β	15 5 14	5 20 0	8 33 28 S	2
The Bright Star in the Northern Crown. }	α	15 25 9	8 48 42	27 28 0 N	2 3
The Scorpion's Heart, Antares. }	α	16 15 58	3 34 12	25 55 35 S	1
In the Head of Serpentarius. }	α	17 24 44	7 9 52	12 44 14 N	2
Bright Star in the Haro Lyra. }	α	18 29 30	sets not.	38 35 15 N	1
Bright Star in the Eagle, Atair. }	α	19 40 30	6 45 55	8 17 56 N	1 2
In the Mouth of the Southern Fish, Fomalhaut. }	α	22 45 17	2 52 16	30 46 56 S	2 1
In the Wing of Pegasus, Markab. }	α	22 53 50	7 17 3	14 1 32 N	2

A TABLE of the SUN's right Ascension in Time, exactly calculated according to the greatest Obliquity of the Ecliptic 23 Deg. 29 Min.

Degr.	♈	♉	♊	♋	♌	♍
	h. m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.
0	0 0 0	1 51 37	3 51 14	6 0 0	8 8 46	10 8 23
1	0 3 40	1 55 26	3 55 25	6 4 22	8 12 55	10 12 12
2	0 7 20	1 59 16	3 59 35	6 8 43	8 17 4	10 16 1
3	0 11 0	2 3 7	4 3 47	6 13 5	8 21 12	10 19 49
4	0 14 41	2 6 58	4 7 59	6 17 26	8 25 20	10 23 36
5	0 18 21	2 10 50	4 12 12	6 21 48	8 29 26	10 27 23
6	0 22 2	2 14 43	4 16 25	6 26 9	8 33 32	10 31 9
7	0 25 42	2 18 36	4 20 40	6 30 30	8 37 38	10 34 55
8	0 29 23	2 22 30	4 24 54	6 34 51	8 41 42	10 38 40
9	0 33 4	2 26 24	4 29 9	6 39 11	8 45 46	10 42 25
10	0 36 45	2 30 20	4 33 25	6 43 32	8 49 49	10 46 10
11	0 40 26	2 34 16	4 37 41	6 47 52	8 53 52	10 49 54
12	0 44 8	2 38 12	4 41 58	6 52 12	8 57 53	10 53 37
13	0 47 49	2 42 0	4 46 16	6 56 31	9 1 54	10 57 21
14	0 51 31	2 46 8	4 50 33	7 0 50	9 5 54	11 1 4
15	0 55 14	2 50 6	4 54 51	7 5 9	9 9 54	11 4 46
16	0 58 56	2 54 6	4 59 10	7 9 27	9 13 52	11 8 29
17	1 2 39	2 58 6	5 3 29	7 13 44	9 17 51	11 12 11
18	1 6 23	3 2 7	5 7 48	7 18 2	9 21 48	11 15 52
19	1 10 6	3 6 8	5 12 8	7 22 19	9 25 44	11 19 34
20	1 13 50	3 10 11	5 16 28	7 26 35	9 29 40	11 23 15
21	1 17 35	3 14 14	5 20 49	7 30 51	9 33 36	11 26 56
22	1 21 20	3 18 18	5 25 9	7 35 6	9 37 30	11 30 37
23	1 25 5	3 22 22	5 29 30	7 39 20	9 41 24	11 34 18
24	1 28 51	3 26 28	5 33 51	7 43 35	9 45 17	11 37 58
25	1 32 37	3 30 34	5 38 12	7 47 48	9 49 10	11 41 39
26	1 36 24	3 34 40	5 42 34	7 52 1	9 53 2	11 45 19
27	1 40 11	3 38 48	5 46 55	7 56 13	9 56 53	11 49 0
28	1 43 59	3 42 56	5 51 17	8 0 25	10 0 44	11 52 40
29	1 47 48	3 47 5	5 55 38	8 4 35	10 4 34	11 56 20
30	1 51 37	3 51 14	6 0 0	8 8 46	10 8 23	12 0 0

A TABLE of the SUN's right Ascension in Time, exactly calculated according to the greatest Obliquity of the Ecliptic 23 Deg. 29 Min.

Degr.	α	η	$\uparrow$	ν	μ	$\times$
	h. m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.	h. m. s.
0	12 0 0	13 51 37	15 51 14	18 0 0	20 8 46	22 8 23
1	12 3 40	13 55 26	15 55 25	18 4 22	20 12 55	22 12 12
2	12 7 20	13 59 16	15 59 35	18 8 43	20 17 4	22 16 1
3	12 11 0	14 3 17	16 3 47	18 13 5	20 21 12	22 19 49
4	12 14 41	14 6 58	16 7 59	18 17 26	20 25 20	22 23 36
5	12 18 21	14 10 50	16 12 12	18 21 48	20 29 26	22 27 23
6	12 22 2	14 14 43	16 16 25	18 26 9	20 33 32	22 31 9
7	12 25 42	14 18 36	16 20 40	18 30 30	20 37 38	22 34 55
8	12 29 23	14 22 30	16 24 54	18 34 51	20 41 42	22 38 40
9	12 33 4	14 26 24	16 29 9	18 39 11	20 45 46	22 42 25
10	12 36 45	14 30 20	16 33 25	18 43 32	20 49 49	22 46 10
11	12 40 26	14 34 16	16 37 41	18 47 52	20 53 52	22 49 54
12	12 44 8	14 38 12	16 41 58	18 52 12	20 57 53	22 53 37
13	12 47 49	14 42 9	16 46 16	18 56 31	21 1 54	22 57 21
14	12 51 31	14 46 8	16 50 33	19 0 50	21 5 54	23 1 4
15	12 55 14	14 50 6	16 54 51	19 5 9	21 9 54	23 4 46
16	12 58 56	14 54 6	16 59 10	19 9 27	21 13 52	23 8 29
17	13 2 39	14 58 6	17 3 29	19 13 44	21 17 51	23 12 11
18	13 6 23	15 2 7	17 7 48	19 18 2	21 21 48	23 15 52
19	13 10 6	15 6 8	17 12 8	19 22 19	21 25 44	23 19 34
20	13 13 50	15 10 11	17 16 28	19 26 35	21 29 40	23 23 15
21	13 17 35	15 14 14	17 20 49	19 30 51	21 33 36	23 26 56
22	13 21 20	15 18 18	17 25 9	19 35 6	21 37 30	23 30 37
23	13 25 5	15 22 22	17 29 30	19 39 20	21 41 24	23 34 18
24	13 28 51	15 26 28	17 33 51	19 43 35	21 45 17	23 37 58
25	13 32 37	15 30 34	17 38 12	19 47 48	21 49 10	23 41 39
26	13 36 24	15 34 40	17 42 34	19 52 1	21 53 2	23 45 19
27	13 40 11	15 38 48	17 46 55	19 56 13	21 56 53	23 49 0
28	13 43 59	15 42 56	17 51 17	20 0 25	22 0 44	23 52 40
29	13 47 48	15 47 5	17 55 38	20 4 35	22 4 34	23 56 20
30	13 51 37	15 51 14	18 0 0	20 8 46	22 8 23	24 0 0

The Use of the TABLE of the fixed STARS, and of the SUN's right Ascension in Time.

THE Time of the Southing or Meridian Transits of the tabulated fixed Stars may be very exactly found after this Manner :

On the Noon of the Day, preceding the Night in which you desire to know the Time of the Southing of any of these Stars, find by the EPHEMERIS the SUN's Place, and with it take out of the Table his right Ascension in Time. This you may do to a Minute by Inspection, which will be sufficient for your present Purpose : Then from the right Ascension of the Star, as it is placed in the Table, subtract the right Ascension of the SUN, the Remainder will be the estimate Time of the Star's Southing, and will not differ from the true Time above two or three Minutes at farthest, which may be near enough for ordinary Uses : But if Exactness is required, then reduce the SUN's Place to this estimate Time, and take out of the Table his right Ascension in Hours, Minutes, and Seconds, and subtract it from that of the Star, the remaining Numbers will shew the true Time of the Star's Culmination or Southing. And if from the Time of the Star's Southing you subtract the semi-diurnal Arch belonging to it, the Remainder will be the Time of the Star's visible Rising ; and being added to it, the Sum will be the Time of its visible Setting.

EXAMPLE of SIRIUS, Jan. 10, 1781.

Place of the Sun at Noon	—	—	—	—	15	20	45
					h.	m.	s.
Right Ascension of SIRIUS	—	—	—	—	6	35	29
Right Ascension of the Sun subtract	—	—	—	—	19	29	45
Estimate Time of the Star's Southing	—	—	—	—	11	5	44
Right Ascension of the Sun at that Time subtract	—	—	—	—	19	31	46
True Time of the Star's Southing	—	—	—	—	11	3	43
Semidiurnal Arch subtract and add	—	—	—	—	4	37	16
True Time of the Star's visible Rising Aftern.	—	—	—	—	6	26	27
True Time of the Star's visible Setting	—	—	—	—	15	40	59

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